

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF IOWA  
EASTERN DIVISION

THE UNITED STATES OF AMERICA

and

THE STATE OF IOWA,

Plaintiffs,

v.

THE CITY OF WATERLOO, IOWA

Defendant.

Civil Action No. 6:15-cv-02087-LRR

**CONSENT DECREE**

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**WHEREAS**, Plaintiff United States of America, by authority of the Attorney General of the United States and through the undersigned attorneys, acting at the request and on behalf of the Administrator of the United States Environmental Protection Agency (EPA), and Plaintiff State of Iowa (State), by authority of the Attorney General of Iowa and through the undersigned attorneys, have filed a Complaint concurrently with this Consent Decree, seeking injunctive relief and civil penalties against Defendant City of Waterloo (City), pursuant to Sections 309(b) and (d) of the federal Clean Water Act (CWA), 33 U.S.C. § 1319(b) and (d), and Iowa Code § 455B.191.

**WHEREAS**, the State is a party to this action pursuant to Section 309(e) of the CWA, 33 U.S.C. § 1319(e), and has joined this action as a co-plaintiff.

**WHEREAS**, the City owns and operates a wastewater treatment facility and sanitary sewer system, which is a “publicly owned treatment works” within the meaning of 40 C.F.R. § 403.3 and a “disposal system” within the meaning of Iowa Code § 455B.171(5), and which receives and treats domestic sewage and wastewater in the Waterloo area.

**WHEREAS**, the City holds a National Pollutant Discharge Elimination System (NPDES) Permit issued by the Iowa Department of Natural Resources (IDNR), as authorized by EPA under Section 402(b) of the CWA, 33 U.S.C. § 1342(b), and Iowa Code § 455B.174(4)(a). The NPDES Permit contains defenses to certain penalties in provisions relating to bypass (Standard Condition 23) and upset (Standard Condition 24).

**WHEREAS**, the Complaint alleges that the City has violated, and could continue to

violate, Section 301(a) of the CWA, 33 U.S.C. § 1311(a), Iowa Code § 455B.186(1) and 567 IAC 62.1(1) and 64.3(1), and the City's NPDES Permit, by: (1) discharging untreated sewage from its publicly owned treatment works, including but not limited to Sanitary Sewer Overflows (SSOs) and Prohibited Bypasses, as defined in Section IV of this Consent Decree; (2) discharging pollutants from its wastewater treatment facility in excess of the City's NPDES Permit, and (3) failing to comply with conditions in the NPDES Permit pertaining to operations and maintenance and Prohibited Bypasses. The City contends that the City's NPDES Permit provides defenses applicable to those claims.

**WHEREAS**, the Cedar River valley was subject to two major flooding events during the years 2008 and 2010 that rendered portions of the City's collection system inoperable and caused widespread sewer overflows. The City contends that these conditions and their residual effects were beyond the City's control.

**WHEREAS**, the City has developed both a Sanitary Sewer Overflow Response Plan (SSORP), and a Capacity, Management, Operations, and Maintenance (CMOM) Program Plan, and both the SSORP and the CMOM Program Plan have been reviewed and accepted by EPA and IDNR.

**WHEREAS**, some areas of the City's Sanitary Sewer System receive significant flows from basement footing drains that were designed to route groundwater to the sanitary sewers, and the City has taken action to address these flows by developing a Footing Drain Removal ordinance, implementing a Footing Drain Removal Program in portions of the City, and establishing flow monitoring mechanisms in those portions of the City that will allow the City to determine the contribution of footing drains to flow within the City's Sanitary Sewer System.

**WHEREAS**, the City does not admit any liability to the United States or the State arising



out of the transactions or occurrences alleged in the Complaint.

**WHEREAS**, the Parties agree that the United States' filing of the Complaint and entry into this Consent Decree constitute diligent prosecution by the United States under Section 505 of the CWA, 33 U.S.C. § 1365, of all matters alleged in the Complaint and addressed by this Consent Decree through the Date of Lodging of the Decree.

**WHEREAS**, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

**NOW THEREFORE**, with the consent of the Parties, **IT IS HEREBY ADJUDGED, ORDERED, AND DECREED** as follows:

#### **I. JURISDICTION AND VENUE**

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and over the Parties. This Court has supplemental jurisdiction over the state law claims asserted in the Complaint pursuant to 28 U.S.C. § 1367(a), because the state claims are so related to the federal claims as to form part of the same case or controversy. Venue lies in this District pursuant to 33 U.S.C. § 1319(b) and 28 U.S.C. §§ 1391(b) and 1395(a), because it is the judicial district where the City is located and where the alleged violations occurred. For purposes of this Decree, or any action to enforce this Decree, the City consents to the Court's jurisdiction over this Decree and any such action and over the City and consents to venue in this judicial district.

#### **II. APPLICABILITY**

2. The obligations of this Consent Decree apply to and are binding upon the City and its officers, directors, employees, agents, servants, successors, assigns, and all persons, firms and

corporations under contract with the City to perform obligations of this Consent Decree, and upon the United States and the State, and their agencies, departments, representatives, employees, successors and assigns, and upon other entities or persons otherwise bound by law.

3. No transfer of ownership or operation of any portion of the City's publicly owned treatment works, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve the City of its obligation to ensure that the terms of the Decree are implemented. At least thirty (30) Days prior to such transfer, the City shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to the EPA, the United States Department of Justice, and the State, in accordance with Section XVI (Notices). Any attempt to transfer ownership or operation without complying with this Paragraph constitutes a violation of this Decree.

4. The City shall provide a copy of this Consent Decree to all officers, directors, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform work required under this Consent Decree. The City shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

5. EPA and IDNR will provide a copy of this Consent Decree to their permitting program staff to allow for communication of Consent Decree requirements to all relevant departments.

6. Any action taken by any contractor or consultant retained to implement the City's obligations under this Consent Decree shall be considered an action of the City solely for purposes of determining compliance with this Consent Decree. In any action to enforce this

Consent Decree, the City shall not assert as a defense the failure by any of its officers, directors, employees, agents, contractors, consultants, successors or assigns to take any actions necessary to comply with the provisions of this Consent Decree.

### **III. OBJECTIVES**

7. The express purpose of the Parties entering into this Consent Decree is for the City to take all necessary measures to achieve full compliance with the CWA, the Iowa water pollution control laws, and all applicable federal and state regulations, as implemented through the City's NPDES Permit, with the goal of eliminating SSOs, Building Backups, and Prohibited Bypasses. All plans, reports, construction, remedial maintenance, and other obligations in this Consent Decree, and under any amendment to this Consent Decree, shall have the objective of ensuring that the City complies with the CWA, the Iowa water pollution control laws, and all applicable federal and state regulations, as implemented by the terms and conditions of its NPDES Permit.

### **IV. DEFINITIONS**

8. Terms used in this Consent Decree that are defined in the CWA or in regulations promulgated under the CWA shall have the meanings assigned to them in the CWA or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

- a. "Adequate Capacity" shall mean the ability to collect, convey and treat peak wet weather flows as determined through the Capacity Assessment (Section V.G) and Master Plan (Section V.H).
- b. "Building Backup" shall mean a wastewater backup occurring into a building that is caused by blockages, flow conditions, or malfunctions in the Sanitary Sewer

System or WWTPs. Building Backups do not include wastewater backups that are caused by blockages or other malfunctions within a private lateral that is not owned or operationally controlled by the City.

- c. “Calendar Year” shall mean the twelve (12) month period starting on January 1 and ending on December 31.
- d. “Capacity, Management, Operations, and Maintenance Program Plan” or “CMOM Program Plan” shall mean, for the purpose of this Consent Decree, a flexible program of accepted industry practices to properly manage, operate and maintain the City’s Sewer System and WWTPs; respond to SSOs, Building Backups, and Prohibited Bypasses; and, in conjunction with implementation of the Master Plan described in Section V.H, investigate and maintain and/or improve the capacity of the Sewer System and WWTPs.
- e. “Certification” or “certify” when used in this Consent Decree shall require the City to comply with Section XVII of this Consent Decree.
- f. “City” shall mean the Defendant City of Waterloo, Iowa.
- g. “Complaint” shall mean the complaint filed by the United States and the State in this action.
- h. “Consent Decree” or “Decree” shall mean this Decree and all appendices attached hereto. In the event of a conflict between this document and any appendices, this document shall control.
- i. “Date of Lodging” shall mean the date on which this Decree is lodged with the United States District Court for the Northern District of Iowa for a period of public comment.

- j. “Day” or “Days” (whether or not capitalized) shall mean a calendar day or calendar days unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal or state holiday, the period shall run until the close of business of the next business day.
- k. “Deliverable” shall mean any written document or other work product, whether in hard copy or electronic format, required to be prepared and/or submitted by or on behalf of the City pursuant to this Decree.
- l. “EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.
- m. “Effective Date” shall have the definition provided in Section XVIII of this Consent Decree.
- n. “Force Main” shall mean any Sewer System line that operates under pressure due to pumping of wastewater at a Pumping Station, except for those Sewer System lines that serve a single structure or building.
- o. “Gravity Sewer Line” shall mean a Sewer System line that receives, contains and conveys wastewater not normally under pressure, but is intended to flow unassisted under the influence of gravity.
- p. “I/I” shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.
- q. “Infiltration” shall mean water other than wastewater that enters the Sewer System as defined by 40 C.F.R. § 35.2005(b)(20).
- r. “Inflow” shall mean water other than wastewater that enters the Sewer System as

defined by 40 C.F.R. § 35.2005(b)(21).

- s. “NPDES Permit” shall mean National Pollutant Discharge Elimination System permit number IA0042650 issued to the City by IDNR pursuant to Section 402 of the CWA, 33 U.S.C. § 1342, as in effect on the Date of Lodging of this Decree, and any future extended, modified or reissued permit.
- t. “Paragraph” shall mean a portion of this Decree identified by an Arabic numeral.
- u. “Parties” shall mean the United States, the State, and the City.
- v. “Plaintiffs” shall mean the United States and the State.
- w. “Prohibited Bypass” shall mean a bypass within the meaning of 567 IAC 60.2, but does not include split-flow operations otherwise approved within the City’s NPDES Permit.
- x. “Pumping Station” (also referred to as a lift station or pump station) shall mean a facility, owned or operated by the City, comprised of one or more pumps that lift wastewater to a higher hydraulic elevation or increase the flow rate/volume through the Sewer System, including all related electrical, mechanical, and structural systems necessary to the operation of that pumping station.
- y. “Sanitary Sewer Overflow” or “SSO” shall mean an overflow, spill, diversion, or release of wastewater from or caused by the Sanitary Sewer System. This term shall include: (i) discharges to waters of the State or United States from the Sanitary Sewer System, and (ii) any release of wastewater from the Sanitary Sewer System to public or private property that does not reach waters of the State or United States.
- z. “Section” shall mean a portion of this Decree identified by a Roman numeral.

- aa. "Service Area" shall mean a section of the Sewer System that is a distinct drainage or wastewater collection area and designated as such by the City. For purposes of this Consent Decree, the Service Areas are identified in the map attached as Appendix 1 to this Consent Decree.
- bb. "Sewer System" or "Sanitary Sewer System" shall mean the City's sanitary wastewater collection and transmission system, including all pipes, interceptors, Force Mains, Gravity Sewer Lines, Pumping Stations, manholes and appurtenances thereto, that are owned or operated by the City. It does not include private lateral lines not owned or operated by the City.
- cc. "State" shall mean the State of Iowa.
- dd. "United States" shall mean the United States of America, acting on behalf of EPA.
- ee. "Wastewater Treatment Plant" or "WWTP" shall mean any sewage treatment plant (or water reclamation facility) operated by the City.

#### **V. REMEDIAL MEASURES AND SCHEDULES**

- 9. The City shall carry out assessments and engineering analyses necessary to identify measures needed to ensure that its Sewer System and WWTPs comply with the requirements of the CWA, applicable federal regulations and Iowa water pollution laws as implemented through the City's NPDES Permit, and then shall implement all such measures in accordance with the schedule contained in the Master Plan developed pursuant to Section V.H of this Decree.
- 10. The City's plans, programs, and other submittals shall be based upon good engineering practices and industry standards.

11. The City hereby certifies that it has sufficient legal authority to:
  - a. Regulate volumes of wastewater from satellite municipalities and private sources;
  - b. Require that sewers and connections be properly designed and constructed;
  - c. Ensure that there is proper installation, testing and inspection of new and rehabilitated sewers;
  - d. Allow and require implementation of the general and specific prohibitions of the pretreatment program as defined in 40 C.F.R. § 403.5; and
  - e. Prohibit Inflow and provide mechanisms for requiring its removal.

12. Permits. Where any compliance obligation under this Section requires the City to obtain a federal, state, or local permit or approval, the City shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. The City may seek relief under the provisions of Section XI of this Consent Decree (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if the City has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

**A. Short-term Remedial Measures**

13. SSO Signage. The City shall continue to post warning signs at all SSO sites to the extent authorized by law. The signs shall be identical to Appendix 2 and shall stay in place until occurrences of SSOs due to a lack of Adequate Capacity, or deficiencies in operations and maintenance (O&M), at that location have been eliminated.

14. The City shall also continue to implement a targeted footing drain removal program in Service Areas 15, 16, 18 and 19, as necessary to reduce SSOs, Building Backups, and



Prohibited Bypasses occurring in those areas, consistent with the Capacity Assessment.

**B. Capacity, Management, Operations, and Maintenance (CMOM) Program Plan**

15. The City shall implement the CMOM Program Plan that has been reviewed and accepted by EPA and IDNR.

16. The City shall biannually review its CMOM Program Plan and modify the Plan as necessary to ensure that the CMOM Program Plan reflects current procedures and is achieving the goals contained therein. Any substantive updates, changes or revisions to the CMOM Program Plan, during the pendency of this agreement, shall be subject to EPA's review and approval in accordance with Section VII (Review and Approval Procedures).

**C. Sanitary Sewer Overflow Response Plan (SSORP)**

17. The City shall implement the Sanitary Sewer Overflow Response Plan (SSORP) that is attached as Appendix 4 to this Consent Decree. The SSORP shall be updated periodically as appropriate. Any substantive updates, changes or revisions to the SSORP, during the pendency of this agreement, shall be subject to EPA's review and approval in accordance with Section VII (Review and Approval Procedures).

**D. Rainfall and Flow Monitoring**

18. The City shall use a network of rain gauge stations and flow monitors to carry out additional dry and wet weather rainfall and flow monitoring as needed to complete and implement the remedial measures described in this Section, and to ensure compliance with its NPDES permit and the terms of this Consent Decree. The monitoring network shall be designed, installed, operated and maintained to provide representative data of sufficient quality for use in the development of the Hydraulic Model described in Section V.F, and the Capacity Assessment described in Section V.G. Following completion of the Hydraulic Model and Capacity Assessment, the City shall maintain a Long-Term Flow and Rainfall Monitoring program as part

of its CMOM Program. The Long-Term Flow and Rainfall Monitoring program will be used to investigate Service Areas for further flow monitoring and physical investigation activities, as necessary, and shall be developed in accordance with Appendix 5.

#### **E. Sewer System Condition Assessment**

19. The City shall complete a targeted Condition Assessment of the Sewer System as described in Appendix 6. The Condition Assessment shall identify portions of, and conditions within, the Sewer System that contribute to SSOs, Building Backups, and Prohibited Bypasses. The Condition Assessment shall be designed and implemented consistent with good engineering practices and industry standards, and shall be used to develop the remedial measures in the Master Plan described in Section V.H.

20. The Condition Assessment shall be completed, and the results reported, in accordance with the schedule and reporting requirements contained in Appendix 6.

#### **F. Hydraulic Model**

21. The City shall develop an updated computerized hydraulic model of its Sanitary Sewer System (Hydraulic Model) as described in Appendix 7. The calibrated Hydraulic Model will be used to provide a sufficient understanding of the response of its Sanitary Sewer System to wet weather events to enable the City to identify appropriate remedial measures to address capacity limitations identified in its Sanitary Sewer System.

22. The Hydraulic Model shall be developed and initially calibrated to 2015 system data no later than February 29, 2016. On or before that date, the City shall submit to EPA and IDNR proof that the Hydraulic Model has been developed and initially calibrated.

23. A complete hydraulic modeling report will be submitted to EPA and IDNR by August 31, 2016, in accordance with the format described in Appendix 7.

## **G. Capacity Assessment**

24. The City shall develop a Capacity Assessment of its Sewer System as described in Appendix 8. The Capacity Assessment shall assess existing and future capacity of the Sanitary Sewer System under a range of flows and rainfall events as identified in Appendix 8. The Capacity Assessment shall account for existing conditions as well as projected population and flow rate growth for twenty (20) years following the Effective Date.

25. The Capacity Assessment shall be completed, and the results reported, in accordance with the schedule and reporting requirements contained in Appendix 8.

## **H. Sanitary Sewer Master Plan**

26. No later than December 31, 2017, the City shall submit to EPA, with a copy to the State, a Sanitary Sewer Master Plan (Master Plan) in accordance with the format described in Appendix 9, for review and approval by EPA in accordance with the requirements of Section VII (Review and Approval Procedures).

27. The Master Plan shall:

- a. Present the results of the Condition Assessment described in Section V.E, the Hydraulic Model described in Section V.F, and the Capacity Assessment described in Section V.G;
- b. Identify the specific remedial measures the City will undertake to address significant structural issues in the Sanitary Sewer System, identified by the Condition Assessment;
- c. Identify the specific remedial measures the City will undertake to ensure that there is Adequate Capacity in the Sanitary Sewer System, as defined by the Capacity Assessment;
- d. Provide a schedule for implementation of remedial measures in accordance with

Paragraph 28, giving priority to actions which will address known SSOs, Building Backups, and Prohibited Bypasses; and

- e. Provide estimated capital, operation and maintenance, and present-value costs for each identified remedial measure. Such costs shall be provided in consistent, year-specific dollars.

28. Schedule of Remedial Measures.

- a. The remedial measures in the Master Plan shall be completed no later than December 31, 2032, unless that schedule is extended pursuant to Paragraphs 29 or 30.
- b. For each remedial measure, the schedule in the Master Plan shall indicate the designated 3-year time block in which the project will be completed, i.e. 2018-2020, 2021-2023, 2024-2026, 2027-2029, 2030-2032. The City shall estimate dates to complete initial design, start construction, complete construction, and (where applicable) place into service.
- c. In proposing the timing and order of remedial measures, the City shall set priorities based upon potential for human health and environmental impact risks; frequency and volume of SSOs, Building Backups, and Prohibited Bypasses; and technical engineering judgment.
- d. Upon approval of the Master Plan by EPA, the City shall implement the remedial measures in the approved Master Plan in accordance with the schedule in the Master Plan. The approved schedule shall be an enforceable part of this Consent Decree.
- e. The City may request that a remedial measure identified in the approved Master

Plan be rescheduled from the 3-year designated grouping, to a later or earlier designated 3-year grouping, provided that all necessary projects are completed by the date specified in Paragraph 28.a.

- i. Any request made pursuant to this sub-Paragraph shall be made in writing pursuant to Paragraph 93, with copies to the State and all documentation necessary to support the request for modification. Such request shall include the specific remedial measure(s) to be moved to earlier/later years, an explanation for the proposed modification, anticipated schedule for such modification, and basis for the modification.
- ii. Any other modifications to the approved Master Plan shall be in accordance with Section XX (Modification).

29. If the City experiences significant adverse changes to its financial circumstances or other financial or budgetary issues, the City may request a modification of the schedule in Paragraph 28.a for completion of remedial measures. The request for modification shall be made in writing to the United States, with a copy to the State, and shall:

- a. Provide a detailed discussion of the significant adverse change to the City's financial circumstances or other financial or budgetary issues;
- b. Propose a revised schedule for completion of remedial measures; and
- c. Include all documents and information supporting the request.

The City shall provide such additional information requested by the United States as is reasonably necessary to assist in evaluating the modification request. If the Parties agree that the City's financial condition has significantly deteriorated in comparison to when the Consent Decree was entered, and agree on an appropriate modification to the schedule of corrective

actions, that modification shall be incorporated into an amended consent decree that shall be subject to court approval after public notice and comment in accordance with Section XXII (Public Participation).

30. If the Parties do not agree that a modification proposal under Paragraph 29 is warranted, and the City believes modification is appropriate, the City reserves its rights to file a motion pursuant to Federal Rule of Civil Procedure 60(b) seeking modification of the schedule for completion of remedial measures; provided, however, that the United States reserves its right to oppose any such motion and to argue that such modification is unwarranted. Such a motion by the City shall not relieve the City of its obligations pursuant to Section V (Remedial Measures and Schedules), unless the Court orders otherwise, and the City shall continue with timely implementation of the remedial measures until the Court rules on any motion described in this paragraph in a manner that modifies the City's obligations under the Consent Decree.

#### **VI. DEMONSTRATION AND ELIMINATION OF OVERFLOWS**

31. Following completion of the remedial measures required by the Master Plan (Section V.H) in accordance with the approved schedules, or at an earlier date if appropriate, the City shall demonstrate for one year (the Demonstration Period) that SSOs, Building Backups, and Prohibited Bypasses caused by a lack of Adequate Capacity of the Sanitary Sewer System, or by deficiencies in operations and/or maintenance (O&M), have been eliminated.

32. If, prior to the end of the period for completion of remedial measures anticipated by the Master Plan, the City concludes that it has made improvements sufficient to eliminate SSOs, Building Backups, and Prohibited Bypasses caused by a lack of Adequate Capacity or by deficiencies in O&M, the City may request to commence the one-year Demonstration Period at that time. The City's request shall be submitted to EPA and IDNR in writing pursuant to

Paragraph 93 and shall include the City's justification for commencing the Demonstration Period at that earlier date. EPA, after consultation with IDNR, will respond to the City's request in writing and, if EPA determines that the City has made improvements sufficient to achieve the goal described above, will approve the City's request.

33. During the Demonstration Period, if the City experiences any SSOs, Building Backups, or Prohibited Bypasses, the City shall report those events pursuant to Paragraph 93, including an explanation of the causes of the incident and any measures the City will take to prevent recurrence of any events caused by a lack of Adequate Capacity or deficiencies in O&M.

34. For SSOs, Building Backups, or Prohibited Bypasses caused by a lack of Adequate Capacity of the Sanitary Sewer System, or by deficiencies in O&M, EPA may, where warranted, notify the City that the City must prepare and submit a Remedial Plan and Schedule (Remedial Plan) to EPA, for review and approval by EPA in accordance with the requirements of Section VII (Review and Approval Procedures). When such a Remedial Plan is required:

- a. The Remedial Plan shall include a schedule for completing the additional measures proposed therein as expeditiously as possible. The City shall complete the Remedial Plan in accordance with the approved schedule and in accordance with sound engineering practices.
- b. After completion of the projects in the Remedial Plan, the Demonstration Period shall restart and the demonstration provisions of this Section shall again apply for the full period of one year.

## **VII. REVIEW AND APPROVAL PROCEDURES**

35. After review of any plan, report, or other item that is required to be submitted for approval pursuant to this Consent Decree, EPA, after consultation with IDNR, shall in writing:

- a. approve the submission;
- b. approve the submission upon specified conditions;
- c. approve part of the submission and disapprove the remainder; or
- d. disapprove the submission.

36. If the submission is approved pursuant to Paragraph 35.a, the City shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part pursuant to Paragraph 35.b or c, the City shall, upon written direction from EPA after consultation with IDNR, take all actions required by the approved plan, report, or other item that EPA, after consultation with IDNR, determines are technically severable from any disapproved portions, subject to the City's right to dispute only the specified conditions or the disapproved portions, under Section XII (Dispute Resolution).

37. If the submission is disapproved in whole or in part pursuant to Paragraph 35.c or d, the City shall, within forty-five (45) Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, the City shall proceed in accordance with the preceding Paragraph.

38. Any stipulated penalties applicable to the original submission, as provided in Section X (Stipulated Penalties), shall accrue during the 45 Day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of the City's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.



39. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA, after consultation with IDNR, may again require the City to correct any deficiencies, in accordance with the preceding Paragraphs, or may itself correct any deficiencies, subject to the City's right to invoke dispute resolution and the right of the EPA to seek stipulated penalties as provided in the preceding Paragraphs.

40. All plans, reports, and other items required to be submitted to EPA under this Consent Decree shall, upon approval or modification by EPA, be enforceable under this Consent Decree. In the event EPA approves or modifies a portion of a plan, report or other item required to be submitted to EPA under this Consent Decree, the approved or modified portion shall be enforceable under this Consent Decree, subject to the provisions of Section XII (Dispute Resolution).

#### **VIII. CIVIL PENALTY**

41. The City shall pay a civil penalty of \$272,000 as follows:
- a. Within thirty (30) Days after the Effective Date, the City shall pay to the United States the sum of \$136,000 as a civil penalty, together with interest accruing from the Date of Lodging, at the rate specified in 28 U.S.C. § 1961 as of the Date of Lodging. The City shall pay the civil penalty due at <https://www.pay.gov> to the U.S. Department of Justice account, in accordance with instructions provided to the City by the Financial Litigation Unit ("FLU") of the United States Attorney's Office for the Northern District of Iowa after the Effective Date. The payment instructions provided by the FLU shall include a Consolidated Debt Collection System ("CDCS") number, which the City shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will

provide the payment instructions to:

Michelle Weidner, CPA  
Chief Financial Officer  
City of Waterloo  
715 Mulberry Street  
Waterloo, IA 50703

and

Mayor  
City of Waterloo  
715 Mulberry Street  
Waterloo, IA 50703

on behalf of the City. The City may change the individual to receive payment instructions on its behalf by providing written notice of such change to the United States and EPA in accordance with Section XVI (Notices). At the time of payment, the City shall send notice that payment has been made: (i) to EPA via email at [cinwd\\_acctsreceivable@epa.gov](mailto:cinwd_acctsreceivable@epa.gov) or via regular mail at EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268; (ii) to the United States via email or regular mail in accordance with Section XVI; and (iii) to EPA in accordance with Section XVI. Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in U.S. and State of Iowa v. City of Waterloo, and reference the CDCS Number and DOJ case number 90-5-1-1-10719.

- b. In satisfaction of the State's share of the civil penalty, the City shall do one of the following:
  - i. If the State, prior to December 11, 2015, authorizes and approves an environmentally beneficial project or projects that meet the criteria set forth in Appendix 3, then the City shall perform such project or projects in

accordance with the terms and schedule approved by the State; or

- ii. If, by December 11, 2015, the State has not approved an environmentally beneficial project which meets the criteria in Appendix 3, the City shall pay the sum of \$136,000 to the State as a civil penalty by mailing a check payable to the "State of Iowa" to:

David Steward  
Environmental Law Division  
Lucas State Office Bldg.  
321 E. 12th Street, Room 018  
Des Moines, IA 50319

- iii. If, prior to December 11, 2015, the State has authorized and approved projects that meet the criteria in Appendix 3, but the total cost to the City of those projects is less than \$136,000, the City shall pay the difference to the State as a civil penalty in accordance with the procedure described above.

42. The City shall not deduct any penalties paid under this Decree pursuant to this Section or Section X (Stipulated Penalties) in calculating its federal or State income tax.

#### **IX. REPORTING REQUIREMENTS**

43. The City shall submit a Status Report to EPA and IDNR annually on December 31 until termination of this Consent Decree as described in Section XXI (Termination). Each Status Report submitted on December 31 shall cover events from October of the prior Calendar Year through September of the present Calendar Year.

44. Each Status Report shall contain a summary of the progress, since the previous Status Report, and current status of all projects, plans, and programs discussed in Section V (Remedial Measures and Schedules). This summary will include, but is not limited to:

- a. A description of completed activities since the previous Status Report that are

associated with the Condition Assessment, Hydraulic Model, Capacity

Assessment, approved Sanitary Sewer Master Plan, and CMOM program;

- b. A summary of any planned activities to occur in the time period before the next Status Report;
- c. An explanation of any updates or changes to existing projects, plans, and programs since the previous Status Report; and
- d. Any conditions, including financial conditions, that the City anticipates may result in a delay in meeting the designated submission deadlines for any work products identified in this Consent Decree.

45. When, consistent with its NPDES Permit, the City submits its monthly “Bypass, SSO, and Basement Back-up Report” and its Monthly Operating Reports (MORs) to IDNR, the City shall simultaneously provide a courtesy copy of those reports to EPA via the procedure described in Section XVI (Notices).

46. Whenever any violation of this Consent Decree, or any other event affecting the City’s performance under this Decree, may pose an immediate threat to the public health or welfare or the environment, the City shall notify EPA and the State orally or by electronic mail as soon as possible, but no later than 24 hours after the City first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

47. All reports shall be submitted to the persons designated in Section XVI (Notices).

48. All reports required to be submitted in this Section shall contain a certification signed by a responsible official of the City in accordance with Paragraph 96.

49. The City shall maintain copies of all written submissions prepared pursuant to this Section for five years after termination of the Decree.

50. The reporting requirements of this Consent Decree do not relieve the City of any reporting obligations required by the CWA or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

51. Any information provided pursuant to this Consent Decree may be used by the United States or the State in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law. The City shall not object to the admissibility into evidence of any report, plan, notice, or any other document prepared in accordance with this Consent Decree or the information contained in said reports in any proceeding to enforce this Consent Decree.

#### **X. STIPULATED PENALTIES**

52. The City shall be liable for stipulated penalties to the United States and the State for violations of this Consent Decree as specified below, unless excused under Section XI (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

53. **Failure to Submit Timely and Complete Documents.** The City shall pay stipulated penalties to be split between the United States and the State, as set forth below, for each Day it fails to submit a timely or complete report or other submittal required under Section V of this Consent Decree (Remedial Measures and Schedules), and/or appendices of this Consent Decree. “Timely” shall mean the report or submittal is made by the date specified in this Consent Decree, including appendices, and “complete” shall mean that the report or submittal includes all of the elements pertaining to the report or submittal as set forth in this Consent Decree, including appendices.

<u>Period of Noncompliance</u>	<u>Penalty per Violation per Day</u>
1st to 30th Day	\$200.00
31st to 60th Day	\$400.00
more than 60 Days	\$600.00

54. **Remedial Requirements.** The City shall pay stipulated penalties to the United States and the State as set forth below for each Day the City fails to satisfy any of the remedial requirements of Section V (Remedial Measures and Schedules). The stipulated penalties for failure to meet each such requirement shall be as follows:

<u>Period of Noncompliance</u>	<u>Penalty per Violation per Day</u>
1st to 30th Day	\$500.00
31st to 60th Day	\$1000.00
more than 60 Days	\$2000.00

55. **SSOs and Prohibited Bypasses.** Subject to the exceptions noted in Paragraph 55.c, for each SSO or Prohibited Bypass that (a) reaches waters of the United States or waters of the State, and (b) that is the result of a lack of Adequate Capacity or deficiencies in O&M, the City shall pay stipulated penalties to the United States and the State as follows:

- a. For each such SSO or Prohibited Bypass occurring during the period from the Date of Lodging through the completion of the remedial measures required by Section V (Remedial Measures and Schedules), the City shall pay a stipulated penalty as follows:

<u>If SSO or Prohibited Bypass occurs in</u>	<u>Penalty per Violation per Day</u>
Prior to approval of Master Plan	\$0
From approval of Master Plan through Calendar Year 2020	\$200.00

Calendar Years 2021 through 2023	\$400.00
Calendar Years 2024 through 2026	\$600.00
Calendar Years 2027 through 2029	\$800.00
Calendar Years 2030 through 2032	\$1000.00

- b. For each such SSO or Prohibited Bypass occurring after completion of the remedial measures required by Section V (Remedial Measures and Schedules), the City shall pay \$2,000.00 per violation per Day.
- c. The City shall not be liable for stipulated penalties under this Paragraph if:
  - i. The SSO or Prohibited Bypass was caused by flood conditions (defined as a Cedar River gage height of 13 feet or greater at the 6th Street gage in Waterloo, or a Black Hawk Creek gage height of 14 feet or greater at the gage in Hudson); and/or
  - ii. The City experiences an SSO or Prohibited Bypass and fully complies with the terms of the Standard Conditions in its NPDES Permit (e.g., Standard Condition Part 23(b)(ii)(1)-(3)).

56. **Reporting Requirements.** The City shall pay stipulated penalties to the United States and the State for each Day for each violation of the reporting requirements of Section IX (Reporting Requirements) as follows:

<b><u>Period of Noncompliance</u></b>	<b><u>Penalty Per Violation Per Day</u></b>
1st through 30th Day	\$200.00
31 <sup>st</sup> through 60th Day	\$400.00
more than 60 Days	\$600.00

57. **Delay in Payment of Penalty:** If the City fails to pay the civil penalty required to

be paid under Section VIII (Civil Penalty) when due, the City shall pay a stipulated penalty of \$1,000 per Day for each Day that the payment is late.

58. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

59. The City shall pay stipulated penalties to the United States and the State within thirty (30) Days of a written demand by either Plaintiff, unless the City invokes the dispute resolution procedures under Section XII (Dispute Resolution) within the 30-day period. The City shall pay 50% of the total stipulated penalty amount due to the United States and 50% to the State. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff.

60. Either Plaintiff may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due to that Plaintiff under this Consent Decree.

61. Stipulated penalties shall continue to accrue as provided in Paragraph 58, during any dispute resolution, but need not be paid until the following:

- a. If the dispute is resolved by agreement of the Parties, the City shall pay accrued penalties agreed to be owing, together with interest, to the Plaintiffs within thirty (30) Days of the effective date of the agreement. If the dispute is resolved by a decision of EPA or the State that is not appealed to the Court, the City shall pay accrued penalties determined to be owing, together with interest, to the Plaintiffs within thirty (30) Days of the effective date of the agreement or the receipt of EPA's or the State's decision or order.



- b. If the dispute is appealed to the Court and the United States or the State prevails in whole or in part, the City shall pay any accrued penalties determined by the Court to be owing, together with interest, within sixty (60) Days of receiving the Court's decision or order, except as provided in Paragraph 61.c, below.
- c. If any Party appeals the District Court's decision, the City shall pay any accrued penalties determined by the Court to be owing, together with interest, within fifteen (15) Days of receiving the final appellate court decision.

62. The City shall pay stipulated penalties owing to the Plaintiffs in the manner set forth and with the confirmation notices required by Section VIII (Civil Penalty), except that the transmittal letters shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

63. If the City fails to pay stipulated penalties according to the terms of this Consent Decree, the City shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or the State from seeking any remedy otherwise provided by law for the City's failure to pay any stipulated penalties.

64. The payment of penalties and interest, if any, shall not alter in any way the City's obligation to complete the performance of the requirements of this Consent Decree.

65. Stipulated penalties are not the Plaintiffs' exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XIV (Effect of Settlement/Reservation of Rights), the Plaintiffs expressly reserve the right to seek any other relief deemed appropriate for the City's violation of this Decree or applicable law, including but not limited to an action against the City for statutory penalties, additional injunctive relief, mitigation or offset measures,

and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Consent Decree shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Decree.

#### **XI. FORCE MAJEURE**

66. “Force majeure,” for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the City, of any entity controlled by the City, or of the City’s contractors, which delays or prevents the performance of any obligation under this Consent Decree despite the City’s best efforts to fulfill the obligation. The requirement that the City exercise “best efforts to fulfill the obligation” includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any such event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized. “Force majeure” does not include the City’s financial inability to perform any obligation under this Consent Decree, unanticipated or increased expenses or costs associated with implementation of this Consent Decree, changed financial circumstances, or other financial or budgetary issues.

67. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, for which the City intends or may intend to assert a claim of force majeure, the City shall provide notice orally or by electronic mail to EPA and IDNR, within 72 hours of when the City first knew that the event might cause a delay. Within seven (7) Days thereafter, the City shall provide in writing to EPA and IDNR, in accordance with Section XVI (Notices), an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the

effect of the delay; the City's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of the City, such event may cause or contribute to an endangerment to public health, welfare or the environment. The City shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. The City shall be deemed to know of any circumstance of which the City, any entity controlled by the City, or the City's contractors knew or should have known. Failure to comply with the above requirements regarding an event precludes the City from asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite the late notice, is able to assess to its satisfaction whether the event is a force majeure event under Paragraph 66 and whether the City has exercised best efforts under Paragraph 66, EPA, after consultation with the State, may, in its unreviewable discretion, excuse in writing the City's failure to submit timely notices under this Paragraph.

68. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify the City in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

69. If EPA, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify the City in writing of its decision. The United States' position shall be binding,

unless the City invokes dispute resolution under Section XII (Dispute Resolution).

70. If the City elects to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution), it shall do so no later than thirty (30) Days after receipt of EPA's notice. In any such proceeding, the City shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that the City complied with the requirements of Paragraphs 66 and 67. If the City carries this burden, the delay at issue shall be deemed not to be a violation by the City of the affected obligation of this Consent Decree identified to EPA and the Court.

## **XII. DISPUTE RESOLUTION**

71. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. The City's failure to seek resolution of a dispute under this Section shall preclude the City from raising any such issue as a defense to an action by the Plaintiffs to enforce any obligation of the City arising under this Consent Decree. This Section does not apply to disputes between the City and the State of Iowa (or its agencies and subdivisions) regarding permits and/or regulatory compliance.

72. **Informal Dispute Resolution Between Plaintiffs and City.** Any dispute subject to dispute resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when the City sends the Plaintiffs a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed twenty (20) Days from the date the dispute arises, unless

that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States, after consultation with the State, shall be considered binding unless, within thirty (30) Days after the conclusion of the informal negotiation period, the City invokes formal dispute resolution procedures as set forth below.

73. **Formal Dispute Resolution Between Plaintiffs and City.** The City shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the Plaintiffs a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting the City's position and any supporting documentation relied upon by the City.

74. The United States, after consultation with the State, shall serve its Statement of Position within thirty (30) Days of receipt of the City's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on the City, unless the City files a motion for judicial review of the dispute in accordance with the following Paragraph.

75. The City may seek judicial review of the dispute by filing with the Court and serving on the Plaintiffs, in accordance with Section XVI (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within twenty (20) Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of the City's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly

implementation of the Consent Decree.

76. The United States, after consultation with the State, shall respond to the City's motion within the time period allowed by the Local Rules of this Court. The City may file a reply memorandum, to the extent permitted by the Local Rules.

77. Judicial Review of Disputes. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 73, the United States reserves the right to argue that its position is reviewable only on the administrative record and must be upheld unless arbitrary and capricious or otherwise not in accordance with law, and the City reserves the right to oppose this position. If the United States does not so argue, or if the Court finds that the arbitrary and capricious standard does not apply, the City shall bear the burden of proving that its actions were in compliance with this Consent Decree; or, if the dispute concerns the interpretation of this Consent Decree, the City shall bear the burden of demonstrating that its position complies with this Decree.

78. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of the City under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 61. If the City does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section X (Stipulated Penalties).

### **XIII. INFORMATION COLLECTION AND RETENTION**

79. The United States, the State, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into the premises of any City property,

at all reasonable times, upon presentation of credentials, to:

- a. monitor the progress of activities required under this Consent Decree;
- b. verify any data or information submitted to the United States or the State in accordance with the terms of this Consent Decree;
- c. obtain samples and, upon request, splits of any samples taken by the City or its representatives, contractors, or consultants;
- d. observe performance tests;
- e. obtain documentary evidence, including photographs and similar data; and
- f. assess the City's compliance with this Consent Decree.

80. Until five years after the termination of this Consent Decree, the City shall retain, and shall instruct its contractors and agents to preserve, copies of any reports, plans, permits, and documents submitted to the United States and/or the State pursuant to this Consent Decree, as well as any underlying research and data used to develop such submittals (hereinafter referred to as "Records"). This information-retention requirement applies regardless of any contrary City, corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the State, the City shall provide copies of any Records required to be maintained under this Paragraph.

81. At the conclusion of the information-retention period provided in the preceding Paragraph, the City shall notify the United States and the State at least ninety (90) Days prior to the destruction of any Records subject to the requirements of the preceding Paragraph and, upon request by the United States or the State, the City shall deliver any such Records to EPA or IDNR.

82. Privileged and Business Confidential Documents. In response to a request for

Records pursuant to Paragraph 80 or 81,

- a. The City may assert that all or part of a Record is privileged or protected as provided under federal law. If the City asserts such a privilege, it shall provide the following: (1) the title of the Record; (2) the date of the Record; (3) the name and title of each author of the Record; (4) the name and title of each addressee and recipient; (5) a description of the contents of the Record; and (6) the privilege or protection asserted by the City. If a claim of privilege or protection applies only to a portion of a Record, the Record shall be provided to EPA or IDNR in redacted form to mask the privileged or protected portion only. The City shall retain all Records that it claims to be privileged or protected until EPA has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in the City's favor.
- b. The City may also assert business confidentiality claims covering part or all of the Records required to be provided under this Section to the extent permitted by and in accordance with 40 C.F.R. § 2.203(b). Records determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA and IDNR, or if EPA has notified the City that the Records are not confidential under the standards of 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to the City.
- c. The City may make no claim of business confidentiality, privilege or protection regarding finalized versions of any Records that the City is required to create or generate pursuant to this Consent Decree.



83. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the State pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of the City to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

#### **XIV. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS**

84. This Consent Decree resolves the civil claims of the United States and the State for the violations alleged in the Complaint filed in this action through the Date of Lodging.

85. The United States and the State reserve all rights against the City with respect to any violations by the City that occur after the Date of Lodging, and/or for any violations of the CWA or applicable state law not specifically alleged in the Complaint, whether they occurred before or after the Date of Lodging.

86. The United States and the State further reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States or the State to obtain penalties or injunctive relief under the CWA or implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraphs 84 and 85. The United States and the State reserve all rights against the City with respect to criminal liability. The United States and the State further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the City's publicly owned treatment works, whether related to the violations addressed in this Consent Decree or otherwise.

87. In any subsequent administrative or judicial proceeding initiated by the United

States or the State for injunctive relief, civil penalties, or other appropriate relief relating to the City's publicly owned treatment works, the City shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the State in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 84.

88. This Consent Decree is not and shall not be construed as a permit or a modification of any permit, under any federal, State, or local laws or regulations. The City is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and the City's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the State do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that the City's compliance with any aspect of this Consent Decree will result in compliance with provisions of the CWA or with any other provisions of federal, State, or local laws, regulations, or permits. Notwithstanding EPA and IDNR's review or approval of any plans, reports, policies or procedures developed pursuant to or as a result of this Consent Decree, the City shall remain solely responsible for any non-compliance with the terms of this Consent Decree, all applicable permits, as well as all federal and State laws and regulations promulgated under those laws.

89. Application for construction grants, State Revolving Loan Funds, or any other grants or loans, or other delays caused by inadequate facility planning or plans and specifications on the part of the City shall not be cause for extension of any required compliance date in this

Consent Decree. Nothing in this Consent Decree limits the rights or defenses available under Section 309(e) of the CWA, 33 U.S.C. § 1319(e), in the event that the laws of the State, as currently or hereafter enacted, may prevent the City from raising the revenues needed to comply with this Decree.

90. This Consent Decree does not limit or affect the rights of the Parties against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against the City, except as otherwise provided by law.

91. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

#### **XV. COSTS**

92. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and the State shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by the City.

#### **XVI. NOTICES**

93. Unless otherwise specified in this Decree, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

As to the United States by email: [eescasemanagement.enrd@usdoj.gov](mailto:eescasemanagement.enrd@usdoj.gov)  
Re: DJ # 90-5-1-1-10719

As to the United States by mail: EES Case Management Unit  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Washington, DC 20044-7611  
Re: DJ # 90-5-1-1-10719

As to EPA: Chief, Water Enforcement Branch  
Water, Wetlands, and Pesticides Division  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Blvd.  
Lenexa, KS 66219

and

Chris Muehlberger  
Office of Regional Counsel  
U.S. Environmental Protection Agency, Region 7  
11201 Renner Blvd.  
Lenexa, KS 66219

As to the State: David Steward  
Environmental Law Division  
Iowa Department of Justice  
Lucas State Office Building  
321 East 12<sup>th</sup> Street, Room 018  
Des Moines, IA 50319

As to IDNR: Joseph Sanfilippo  
Environmental Program Supervisor  
Iowa Department of Natural Resources  
909 West Main, Suite 4  
Manchester, IA 52057

As to the City: Michelle Weidner, CPA  
Chief Financial Officer  
City of Waterloo  
715 Mulberry Street  
Waterloo, IA 50703

and

Mayor  
City of Waterloo  
715 Mulberry Street  
Waterloo, IA 50703

94. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

95. Notices submitted pursuant to this Section shall be deemed submitted upon

mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

#### **XVII. CERTIFICATION**

96. Each report, plan, notice, or any other document submitted by the City to the United States or the State pursuant to this Consent Decree shall be signed by an official of the City and include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

97. This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

#### **XVIII. EFFECTIVE DATE**

98. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

#### **XIX. RETENTION OF JURISDICTION**

99. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XII (Dispute Resolution) and XX (Modification), or effectuating or enforcing compliance with the terms of this Decree.

## **XX. MODIFICATION**

100. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties or by further order of the Court. Where a modification agreed upon by the Parties constitutes a material change to this Consent Decree, it shall be effective only upon approval by the Court.

101. The Parties may by mutual agreement determine whether a modification is non-material. Non-material changes to this Consent Decree (including appendices) shall be made by written agreement of the Parties without Court approval. Non-material changes that require written agreement of the Parties include changes in remedial measures included in the Master Plan (Section V.H), which modify overall project scope or reschedule the 3-year time block in which the measures were originally scheduled for completion, so long as those changes do not adversely affect conformance with Consent Decree performance objectives or final completion deadlines. Any scheduling change which would delay the final completion of remedial measures beyond the 15-year deadline established in Paragraph 28.a shall constitute a material modification requiring Court approval.

102. Any disputes concerning modification of this Consent Decree shall be resolved pursuant to Section XII (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 77, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

## **XXI. TERMINATION**

103. After the City has completed the requirements of Paragraphs 13 through 27 and Section VI (Demonstration and Elimination of Overflows), and has paid the civil penalties and

any accrued stipulated penalties as required by this Consent Decree, the City may serve upon the United States and the State a Request for Termination, stating that the City has satisfied those requirements, together with all necessary supporting documentation.

104. Following receipt by the United States and the State of the City's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether the City has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States after consultation with the State agrees that the Consent Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Consent Decree.

105. If the United States after consultation with the State determines that the Consent Decree cannot be terminated, the City may invoke dispute resolution under Section XII (Dispute Resolution). However, the City shall not seek dispute resolution of any dispute regarding termination until at least 120 Days after service of its Request for Termination. This Consent Decree shall remain in effect pending resolution of the dispute by the Parties or the Court in accordance with the provisions of Section XII (Dispute Resolution).

## **XXII. PUBLIC PARTICIPATION**

106. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. The City consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Consent Decree, unless the United States has notified

the City in writing that it no longer supports entry of the Consent Decree.

### **XXIII. SIGNATORIES/SERVICE**

107. Each undersigned representative of the City and the State, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice, certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

108. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. The City agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

### **XXIV. INTEGRATION**

109. This Consent Decree and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Consent Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than Deliverables that are subsequently submitted and approved pursuant to this Consent Decree, the Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Decree.

### **XXV. FINAL JUDGMENT**

110. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, the State, and the City.



**XXVI. APPENDICES**

111. The following appendices are attached to and incorporated into this Consent Decree:

Appendix 1 – map of Service Areas

Appendix 2 – SSO signage

Appendix 3 – Criteria for Environmentally Beneficial Project Selection

Appendix 4 – Sanitary Sewer Overflow Response Plan

Appendix 5 – Long-Term Flow & Rainfall Monitoring Program

Appendix 6 – Sanitary Sewer System Condition Assessment

Appendix 7 – Hydraulic Model

Appendix 8 – Sanitary Sewer System Capacity Assessment

Appendix 9 – Sanitary Sewer Master Plan


Dated and entered this 20<sup>th</sup> day of January, 2016

  
UNITED STATES DISTRICT JUDGE


THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States and State of Iowa v. City of Waterloo*.

FOR THE UNITED STATES OF AMERICA:

10/22/15  
Dated

  
JOHN C. CRUDEN  
Assistant Attorney General  
Environment and Natural Resources Division  
U.S. Department of Justice  
Washington, D.C.

10/23/15  
Dated

  
DANICA ANDERSON GLASER  
Trial Attorney  
Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611, Ben Franklin Station  
Washington, D.C. 20044-7611  
Tel.: (202) 514-5270  
Fax: (202) 514-0097  
[danica.glaser@usdoj.gov](mailto:danica.glaser@usdoj.gov)

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States and State of Iowa v. City of Waterloo*.

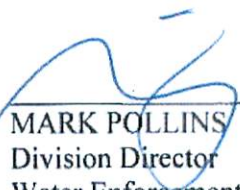
KEVIN W. TECHAU  
United States Attorney  
Northern District of Iowa

10/23/2015  
Dated


Matthew J. Cole  
MATTHEW J. COLE  
Chief of the Civil Division  
U.S. Attorney's Office  
Northern District Of Iowa  
111 7th Avenue, SE  
Box #1  
Cedar Rapids, IA 52401  
Phone: (319) 363-6333  
Cedar Rapids Fax Line: (319) 363-1990  
Cedar Rapids TTY Line: (319) 286-9258

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States and State of Iowa v. City of Waterloo*.

10/17/15  
Dated


  
MARK POLLINS  
Division Director  
Water Enforcement Division  
Office of Civil Enforcement  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

10/13/15  
Dated


  
JAMES VINCH  
Attorney  
Water Enforcement Division  
Office of Civil Enforcement  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States and State of Iowa v. City of Waterloo*.

10-22-15  
Dated

  
MARK HAGUE  
Acting Regional Administrator  
U.S. EPA Region 7  
11201 Renner Boulevard  
Lenexa, KS 66219

10.22.15  
Dated

  
CHRISTOPHER MUEHLBERGER  
Assistant Regional Counsel  
U.S. EPA Region 7  
11201 Renner Boulevard  
Lenexa, KS 66219

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States and State of Iowa v. City of Waterloo*.

FOR THE STATE OF IOWA:

THOMAS J. MILLER  
ATTORNEY GENERAL  
OF THE STATE OF IOWA

10/22/2015

Dated



DAVID S. STEWARD  
Assistant Attorney General  
Environmental Law Division  
Iowa Department of Justice  
Lucas State Office Building  
321 E. 12th Street, Ground Flr.  
Des Moines, IA 50319  
(515) 281-5351

10/22/2015

Dated



JACOB J. LARSON  
Assistant Attorney General  
Environmental Law Division  
Iowa Department of Justice  
Lucas State Office Building  
321 E. 12th Street, Ground Flr.  
Des Moines, IA 50319  
(515) 281-5351

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States and State of Iowa v. City of Waterloo*.

FOR THE CITY OF WATERLOO:

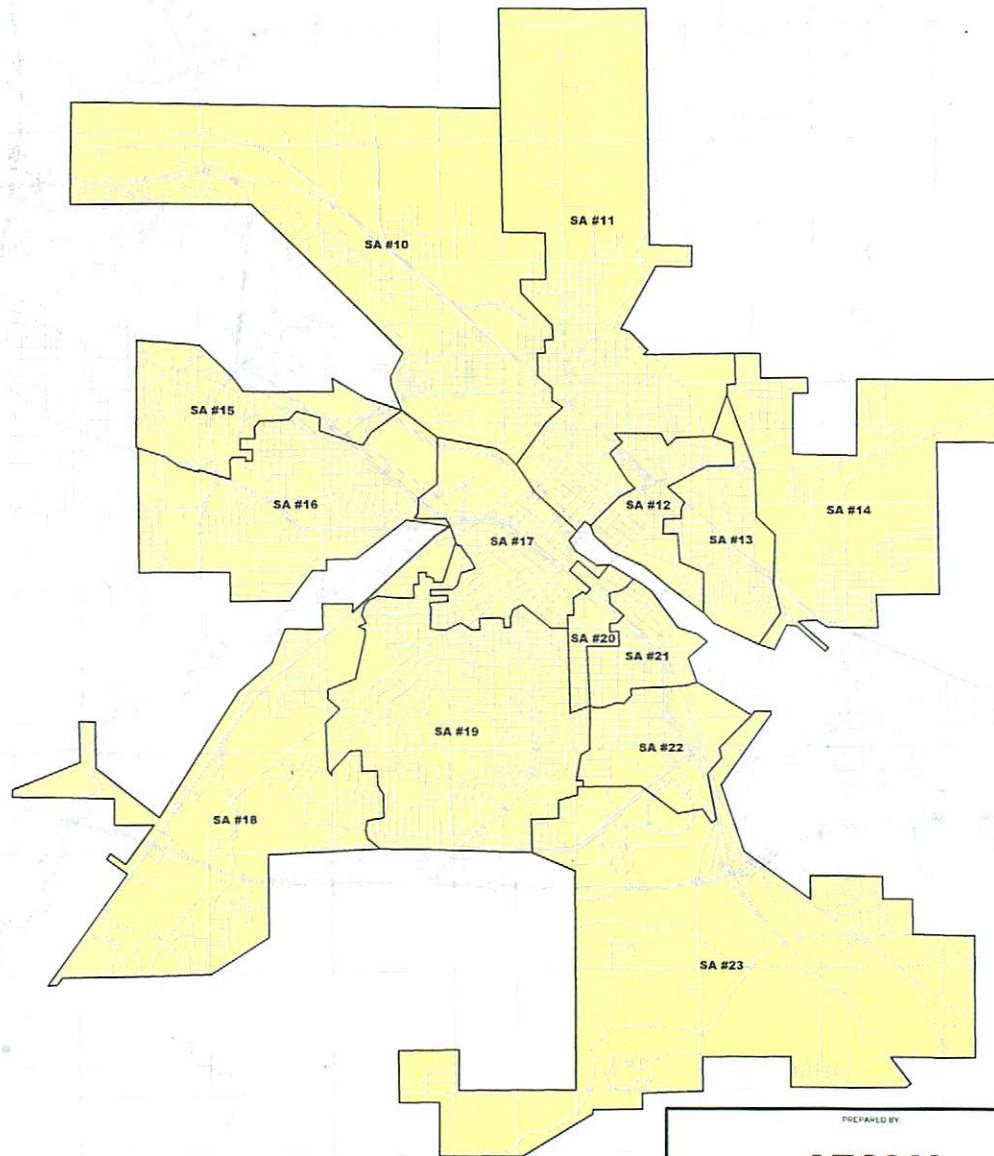
10/20/2015  
Dated



BUCK CLARK  
Mayor  
City of Waterloo  
715 Mulberry Street  
Waterloo, IA 50703  
(319) 291-4301

# Appendix 1





0' 1/2 1 MILE  
 SCALE

PREPARED BY:

**AECOM**

801 EYCAMORE STREET SUITE 202 WATERLOO, IA 50703-4444 1-319-232-4531

ATTACHMENT 1  
 SANITARY SEWER SERVICE AREAS

CITY OF WATERLOO  
 WATERLOO, IOWA

JUNE 2015

60305798.10

# Appendix 2





# WARNING SEWAGE

**KEEP OUT OF WATER**



**NO FISHING • NO PLAYING  
NO SWIMMING • NO WADING**

**Exposure to Water May Cause Illness**

Report Foul Odors or Unusual Discoloration

Call: (319) 291-4553

Reference Sign #:



WASTE MANAGEMENT SERVICES  
3505 EASTON AVE.  
WATERLOO, IA 50702  
(319) 291-4553

[WWW.WATERLOO-IA.ORG](http://WWW.WATERLOO-IA.ORG)



## Appendix 3

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 3: Criteria for Environmentally Beneficial Project Selection**

**Criteria for Environmentally Beneficial Project Selection**

- The environmental projects described in Paragraph 41(b) of the Consent Decree should be designed to secure environmental or public health protection and improvements benefiting the community of Waterloo and/or surrounding areas.
- The environmental projects (including studies needed to identify such projects) will be designed to advance Iowa's policy to conserve, improve and protect its natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of Iowa and their overall social and economic well-being.
- The following categories of environmental projects advance the objectives of the preceding paragraphs:

1) Public Health

A public health project provides diagnostic, preventive and/or remedial components of human health care that are related to the actual or potential damage to human health caused by the violation(s).

2) Pollution Prevention

A pollution prevention project involves an activity that reduces the generation of pollution (or reduces conditions that could threaten public health and welfare) through "source reduction," i.e., any practice that reduces the amount of any hazardous substance, pollutant or contaminant entering any waste stream or otherwise being released into the environment, prior to recycling, treatment or disposal.

3) Pollution Reduction

If a pollutant or waste stream has already been generated or released, a pollution reduction approach—which identifies or employs recycling, treatment, discharge reduction, containment or disposal techniques—may be appropriate. A pollution reduction project involves an activity that results in a decrease in the amount and/or toxicity of any hazardous substance, pollutant or contaminant entering any waste stream or otherwise being released into the environment by a facility operated by the City.

4) Environmental Restoration and Protection

An environmental restoration and protection project is one that goes beyond repairing the damage caused by the violation(s), and enhances the condition of the ecosystem or immediate geographic area adversely affected or creates additional infrastructure resilience to protect the urban environment, furthering public health and safety objectives. These projects may be used to restore or protect natural environments, such as ecosystems, and man-made environments, such as facilities and buildings. This category also includes projects that protect the ecosystem from actual or potential damage resulting from the violation(s), or improve the overall condition of the ecosystem.

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 3: Criteria for Environmentally Beneficial Project Selection**

- Public statements or representations made by the Defendant regarding the environmental projects shall expressly state that the projects were funded pursuant to a consent decree resolving a civil action brought by the Iowa Attorney General's Office on behalf of the State of Iowa to enforce Iowa's environmental laws contained in Iowa Code chapter 455B.
- As of the date of executing this Consent Decree, the City shall demonstrate that it is not required to perform or develop the environmental projects by any federal, state, or local law or regulation; is not required to perform or develop the environmental projects by agreement, grant, or as injunctive relief awarded in the instant action or any other action in any form; and the environmental projects are not materially related to any remedial or mitigation measures undertaken by the City to address the violations alleged in this enforcement action.

# Appendix 4

# **City of Waterloo**

Waste Management Services Department

3505 Easton Ave, Waterloo, IA 50702

319-291-4553

[www.cityofwaterlooia.com](http://www.cityofwaterlooia.com)

## **Sanitary Sewer Overflow Response Plan**

**(SSORP):**

January 27, 2010

Revision: March 2014



**Table of Contents**

**Section No.**

1. Purpose
2. IDNR Reporting
3. Basement Backups
4. SSOs/Manhole Overflows
5. Bypasses
6. Bypass Pumping of a Sanitary Sewer to Storm Sewer/Waterway
7. Posting "Warning Sewage" Signs
8. Containment of SSOs/Manhole Overflows
9. Traffic Control
10. Public and City Website Notification
11. Training
12. Calculating & Visual Estimates of Sewage Volumes for a Basement Backup,  
SSO/Manhole Overflow, and Bypass Pumping
13. Definitions

## **Sanitary Sewer Overflow Response Plan (SSORP)**

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### **Appendix**

- A. IAC Environmental Protection [567] Chapter 63.6**
- B. Procedures of how to enter “SSO & Bypass Public Notification Report Form”  
onto city website**
- C. Manhole Overflow visual pictures to determine Total Gallons**
- D. Filling-Out: Water Pollution/Flood Control Complaint Information Form by  
Office Personnel, Plant Security and Wastewater Operators**
- E. IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report  
Form**
- F. N. Hackett Lift Station Overflow (Bypass) Controls and Procedures**

## Sanitary Sewer Overflow Response Plan (SSORP)

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### 1. Purpose:

The City of Waterloo Sanitary Sewer Overflow Response Plan (SSORP) is developed to protect public health, the environment, and property. SSORP is meant to identify the necessary procedures for notification, response, reporting, and clean-up of SSOs/Manhole Overflows, Bypasses, and Basement Backups that may occur within the City of Waterloo's Collection and Treatment System. The SSORP is designed to dispatch appropriate response personnel to the SSO affect area(s) or to a notified basement backup location to minimize the volume and land area that may be affected from a sewage overflow and to minimize property damage. The source of a SSO shall be stopped or contained as soon as possible.

By documenting and implementing these SSORP practices, the impact of SSOs and Bypasses on public health and the environment should be reduced.

### 2. IDNR Reporting:

The IDNR (Iowa Department of Natural Resources) **Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form** is the main tool that is used for initially documenting a Basement Backup, SSO/Manhole Overflow, Bypass, or Bypass Pumping Event. Basement Backups cause from a sanitary sewer main plug/blockage owned/operated by the City of Waterloo, (but Not building lateral sewer(s) causing plugs/blockages) SSOs/Manhole Overflows, and Bypasses **must be reported** not later than twelve (12) hours after the onset or discovery of the event to the Iowa Department of Natural Resources (IDNR).

All Basement Backups, SSO/Manhole Overflows, Bypasses or Bypass Pumping events must have an **IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form** filled out by the responding personnel as a sewer maintenance worker or other department employee and signed by the Authorized Representative as an On-Call Foreman, Foreman, or Supervisor. All Report

## Sanitary Sewer Overflow Response Plan (SSORP)

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Forms data will than be entered into the CMOM database for data storage and retrieval.

### Reporting of Basement Backups, SSOs/Manhole Overflows, Bypasses or Bypass Pumping Event

If a Basement Backup, SSO/Manhole Overflow, or Bypass occurs, a Waste Management Services Department On-Call Foreman, Foreman or Supervisor will need to contact/notify and report to the Iowa Department of Natural Resources (IDNR) within Twelve (12) hours after the onset or discovery of the event.

#### IDNR is contacted at the following phone numbers:

IDNR Manchester Office: 563-927-2640

Manchester Office Hours: 8:00 a.m. – 4:30 p.m. Monday – Friday

After Hours/Weekends/Holidays: 515-281-8694

### **3. Basement Backups:**

Phone calls/notifications received for Basement Backups.

If the city sewer main is plugged or surcharged at the basement backup address and sewage is on the floor of that address, an **IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form** will need to be filled out and the sewer maintenance worker will need to phone call/contact and report to the on-call foreman with the basement backup address and the details of the basement backup. If No sewage was on the floor, than No IDNR report form will need to be turned in. The sewer maintenance worker should contact the on-call foreman as soon as it's known that an IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form will need to be filled out, unless it is after 10:00 p.m. and no help is needed. If the sewer maintenance worker **did not** contact/notify the on-call foreman because it was after 10:00 p.m. than the sewer maintenance worker will need to contact/notify the on-call foreman around 7:00 a.m. the next morning on weekends/holidays or report to on-

## Sanitary Sewer Overflow Response Plan (SSORP)

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call foreman at Waste Management Services at 7:00 a.m. during weekdays. But the sewer maintenance worker **MUST** contact/notify the on-call foreman **before** **12 hours from the onset or discovery of the event.**

After the on-call foreman receives the information about the basement backup the on-call foreman will then need to contact and report to the IDNR about the basement backup. **All Basement Backups must be reported not later than 12 hours after the onset or discovery of the event** by the On-Call Foreman, Sewer Maintenance Foreman, or Supervisor to the IDNR. Use the after hours phone number on weekends, holidays, and evening hours.

If on a Basement Backup call, a sewer manhole is or there has been an overflow, then the manhole overflow box would need to be checked off on the IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form. Clean-up and disinfection of the manhole overflow area and temporary "Warning Sewage" signage would need to be posted.

The sewer maintenance worker will need to fill out the IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form and would need to give it to the on-call foreman. On weekends or holidays the report **will not** need to be given to the on-call foreman at that time, **unless** requested by the on-call foreman, but would need to be given to the on-call foreman on the first workday of the week (as Monday). The on-call foreman will then need to give the report to a supervisor or if a sewer maintenance worker is not able to give the report to the on-call foreman then the report may be given directly to a supervisor. A filled out IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form **Must** be turned in **for each** Basement Backup or SSO/Manhole Overflow.

#### **4. SSOs/Manhole Overflows:**

Phone calls/notifications received for SSOs/Manhole Overflows.

## Sanitary Sewer Overflow Response Plan (SSORP)

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Whenever a sewer maintenance worker receives a phone call/notification of a SSO/manhole overflow the on-call foreman will need to be contacted and notified. The sewer maintenance worker should notify the on-call foreman after they have checked the manhole overflow site/location for an overflow, have collected samples, and have hydro flushed and unplugged the sewer main. After the sewer main has been hydro flushed and unplugged the sewer maintenance worker would need to fill out an IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form and will need to contact/notify and report to the on-call foreman about the event. If it is after 10:00 p.m. and no help is needed, the phone call/notification to the on-call foreman may wait until 7 a.m. the next morning. If the sewer maintenance worker **did not** contact the on-call foreman because it was after 10:00 p.m. then the sewer maintenance worker will need to contact the on-call foreman around 7:00 a.m. the next morning to report the SSO/manhole overflow on weekends/holidays or report at Waste Management Services at 7:00 a.m. during weekdays.

After the on-call foreman or sewer maintenance foreman receives the information about the SSO/manhole overflow, the on-call foreman or sewer maintenance foreman will then need to contact/notify and report to the IDNR about the SSO/manhole overflow. **All SSOs/Manhole Overflows must be reported not later than 12 hours after the onset or discovery of the event by the On-Call Foreman, Sewer Maintenance Foreman, or Supervisor to the IDNR.**

Before hydro flushing an overflowing manhole the sewer maintenance worker will need to collect **two bottles of sample** (One with Acid) from the overflow site/location. Fill-out all information on the sample bottle labels and collect samples, Fill sample bottles. The samples need to be delivered to the Laboratory Technician and/or put into the lab refrigerator. If the samples **cannot** be put in the lab refrigerator, the sample should be put into the waste hauler refrigerator located at the first Northeast door of the headworks and then to the first door on the right. The sewer maintenance worker will need to contact/notify the lab technician to

## Sanitary Sewer Overflow Response Plan (SSORP)

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report the collection of the samples and where the sample bottles are located (as lab or waste hauler refrigerator) right after 7:00 a.m. except on Sundays. **Keep** two sample bottles in the flusher truck and the sewer maintenance worker that uses the sample bottles needs to replace those sample bottles.

The sewer maintenance worker will need to have the overflow/SSO area(s) (streets, lawns, sidewalks, and public areas) isolated from the public by barricading/coning/safety tapping off the affected area(s). The affected area(s) will need to have temporary "Warning Sewage" signage posted around the affected area(s) and at entry point where the overflow/SSO enters the stream, creek, or river. The affected area(s) will need to be cleaned up as: standing water will need to be vacuumed up and rag, grease, and trash cleaned up. In the Action Taken/Resolution section of the IDNR report form write the clean-up action and the disinfection that was performed. The overflow/SSO affected area(s) will need to be **disinfected** with chlorine bleach or lime; the use of chlorine in the streets is preferred. Use a two-gallon lawn sprayer with chlorine bleach to spray overflow area. **Do Not** flush/hose the sewage overflow area in a storm drain.

All private property that has a SSO/Overflow on their property must be contacted by phone or in person that a sewage overflow occurred and where the overflow is located on their property. "Warning Sewage" signage and barricade tape shall be posted around the sewage overflow affected area.

The sewer maintenance worker will need to fill out an IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form.

Information that is included on the Report Form:

- The reason for the bypass (overflow), including the amount (volume) and duration of any rainfall event that may have contributed to the bypass; (Supervision will fill in the rainfall amount)
- The date and time of onset or discovery of the bypass;

## Sanitary Sewer Overflow Response Plan (SSORP)

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- The duration of the bypass;
- An estimate of the amount of untreated or partially treated sewage or wastewater that was discharged; (give a description of the overflow)
- The location of the bypass; and
- The name of any body of surface water that was affected by the bypass (Appendix A: IAC Environmental Protection [567] Chapter 63.6(3)(d)).

Fill-out the IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form as much as possible and deliver to on-call foreman, foreman, or supervisor by 7:00 a.m. on weekdays, if Basement Backup or SSO call/notification is completed after 3:00 p.m. All Basement Backups, SSOs/Manhole Overflows, and Bypass/Pumping between the hours of 3:00 p.m. and 10:00 p.m. **Must** be reported to the IDNR after the event has happened by the on-call foreman. If the Basement Backup or Manhole Overflow was during the weekday working hours of 7 a.m. to 3 p.m. and the Basement Backup or Manhole Overflow has been completed, with the Report Form filled out, by 3:00 p.m. then the IDNR Report Form may be delivered to a supervisor and reported to IDNR by a supervisor. **All Basement Backups, SSOs/Manhole Overflows, and Bypasses must be reported not later than 12 hours after the onset or discovery of the event** by the On-Call Foreman, Sewer Maintenance Foreman, or Supervisor to the IDNR.

Overflow Volumes Recovered in gallons.

Any volumes of SSO that was recovered or sewage volumes hauled from one part of the collection system to another, stopping or reducing an overflow, by Waste Management Services vacuum truck or by a private tank hauler company. Loads will need to be counted and volumes/gallons calculated.



**5. Bypasses:**

When a Flow Equalization (FEQ) Basin Bypass occurs an IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form will need to be filled out by the on-call foreman or operations foreman.

The On-Call Foreman or Operations Foreman will need to be contacted/phoned and be notified of an FEQ Basin Bypass by the wastewater operator or plant security at the start of the Bypass. **A FEQ Basin Bypass must be reported not later than 12 hours after the onset or discovery of the event** by the On-Call Foreman, Operations Foreman, or Supervisor to the IDNR.

A sample will need to be collected for each day that the FEQ Basin is bypassing by a Laboratory Technician or Wastewater Operator. If a Laboratory Technician or Wastewater Operator can't be contacted the sample may be collected by the on-call foreman.

A "Warning Sewage" sign will need to be posted at the river/waterway location of the sewage entry point, when river/waterway water levels permit it to be posted.

The FEQ Basin Bypass flow meter will need to be turned ON when the West (# 2) FEQ Basin is around the seven (7) ft. level and level raising and turned OFF around the seven (7) ft. level and level falling by a wastewater operator, operations foreman, or on-call foreman.

Another location where a bypass may happen is N. Hackett lift station. The first responding employee, at the bypass location, as plant maintenance mechanic, instrumentation control technician, sewer maintenance worker, foreman or any other department employee will need to report/contact and notify the on-call foreman of the bypass. The first responding employee will need to fill-out an IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form and deliver report form to the on-call foreman.

**6. Bypass Pumping of a Sanitary Sewer to Storm Sewer/Waterway:**

Complaint phone calls/notifications received by residents asking for a portable pump, because of high rainfall amounts or sewer surcharge.

- Sewer maintenance foreman, on-call foreman, or a supervisor will determine if a portable pump is needed and if a portable pump will be set-up at the complaint location.

Fill-out both sides of sheet, "Sewer Overflow Sheets" on one side of sheet and "IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form" on other side of sheet, when running a portable pump for bypassing. Give sheet/form to on-call foreman or a shift foreman (a sewer maintenance worker) when bypass pumping continues on for many shifts or days, to complete sheet/form when pumping is complete. **Bypass Pumping must be reported not later than 12 hours after the onset or discovery of the event** by the On-Call Foreman, Foreman, or Supervisor to the IDNR.

When changing portable pump Pump Speed as minimum, medium & high, write on sheet/form, under Pump Speed, the date & time of the changed pump speed and the speed of pump.

Samples will need to be collected when a portable pump is started. Collect **two bottles of sample** (One with Acid) from the portable pump location. Fill-out all information on the sample bottle labels and collect samples, Fill sample bottles. The samples need to be taken/delivered to the Laboratory Technician and/or put/placed into the lab refrigerator. If the samples **cannot** be put in the lab refrigerator, the samples should be taken to the waste hauler refrigerator located at the first Northeast door of the headwork's and then to the first door on the right. The sewer maintenance worker will need to contact/notify the lab technician to report the collection of the samples and where the sample bottles are (as lab or waste hauler refrigerator) right after 7:00 a.m. except on Sundays.

Collect sample(s) for E. coli if a portable pump is running during the weekday regular working hours, as E. coli sample(s) have to be turned in to Test America within six (6) hours of collection. On-call foreman or sewer maintenance foreman will need to notify a lab technician if any portable pump(s) are running during the workday, 7:00 a.m. to 3:00 p.m. hours, so an E. coli sample(s) can be collected.

Four (4) & Six (6) inch portable pump hour meter hours must be logged on "Sewer Overflow Sheets" or portable pump form. If an hour meter reader is not working on a portable pump, notify the sewer maintenance foreman with the pump number.

**7. Posting "Warning Sewage" Signs:**

All SSOs/Manhole Overflows, Bypasses, and Bypass pumping from a portable pump should have a "Warning Sewage" sign(s) posted at overflow or bypass pumping location and at the entry point of a waterway, creek, stream, or river. Sewage overflows or sewage bypasses pumping to a creek or waterway that flow throw or next to a public area, as a park or school, should have a sign(s) posted at thoughts locations.

Signs will be marked with a date number and a three-digit permanent sign number. The numbers all together will be called the Reference Sign(s) Number. The reference sign number will be seen as: 4-15-14 001 or 5/03/14 015. All "Warning Sewage" signs posted to a manhole overflow or bypass pumping location need to have the reference sign number(s) entered on the IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form.

**8. Containment of SSOs/Manhole Overflows:**

The sewer maintenance worker or responding employee responding to the SSO incident shall first initiate measures to stop the overflow by hydro flushing the

## Sanitary Sewer Overflow Response Plan (SSORP)

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sewer to unplug the main or by restarting a lift station causing the SSO, if the these measures don't stop the overflow than the next step is containment of the overflowing sewage and to recover as much of the overflow/spilled sewage as possible.

Determine the immediate destination of the overflow (e.g. storm sewer, body of water or creek, or on the ground).

Identify and request, if necessary, assistance or additional resources (materials and equipment) to contain or isolate the overflow.

Steps to contain the overflow (e.g. block storm sewer, recover sewage with a vacuum truck, divert into a downstream manhole, block storm sewer down stream to contain sewage and recover may be performed in dry weather conditions).

### **9. Traffic Control:**

Traffic control may be needed to protect the public or sewer maintenance staff. Typically, immediate traffic control is needed if there is a street collapse or significant depression in the pavement that is related to the sewer, or if the overflow causes flooding of the street. Traffic control may also be needed to prevent wastewater from being further disbursed and to protect the sewer maintenance worker while containing the overflow and removing the blockage.

If necessary, use other departments including Police Dept. or Public Works Dept. to ensure proper traffic control.

- Waterloo Police Department: (319) 291-4340 for Non-emergency No.
- Public Works Department: (319) 291-4445

### **10. Public and City Website Notification:**

On-call foreman will need to enter a SSO(s) or Bypass(es) information into the "SSO & Bypass Public Notification Report Form" and have the filled-out form sent to the city website location. The **"SSO & Bypass Public Notification**

## Sanitary Sewer Overflow Response Plan (SSORP)

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**Report Form” must be posted on city website not later than 12 hours after the onset or discovery of the event.**

An email notification will be sent to the Waterloo/Cedar Falls Courier and Black Hawk County Health Department when a “SSO & Bypass Public Notification Report Form” is sent to the city website.

Appendix B is the procedures of how to enter “SSO & Bypass Public Notification Report Form” into city website by the Foreman’s and Supervisor’s.

### **11. Training:**

Training should be preformed annually in March on this SSORP.

Copy of the SSORP will be available by request and posted at Sewer Maintenance bulletin board.

### **12. Calculating & Visual Estimates of Sewage Volumes for a Basement Backup, SSO/Manhole Overflow, and Bypass Pumping:**

#### Calculating for a Basement Backup

Volume of a Rectangle = Length(ft) x Width(ft) x Depth(ft) x 7.48 gals/cu. ft.  
= Gallons/cu. ft.

Volume of a Cylinder =  $0.785 \times \text{Diameter(ft)}^2 \times \text{Depth(ft)} \times 7.48 \text{ gals/cu. ft.}$   
= Gallons/cu. ft.

#### Calculating for a SSO/Manhole Overflow

Use Manhole Overflow visual pictures in Appendix C to determine Total Gallons  
**Total Volume, gallons = Estimated Overflow gpm (Picture) x Time (minutes)**

#### Calculating for Bypass Pumping

Pumping gallons for a **Four (4)** inch pump.

- Pump Speed: Minimum = 200 gpm, Medium = 300 gpm, &

## Sanitary Sewer Overflow Response Plan (SSORP)

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High = 400 gpm

Pumping gallons for a Six (6) inch pump.

- Pump Speed: Minimum = 425 gpm, Medium = 760 gpm, &  
High = 900 gpm

**Total Pumping, Gallons = Pumping gpm x Time (minutes)**

### 13. Definitions:

#### **Bypass**

The intentional diversion of wastestreams from any portion of a treatment (or pretreatment) facility. (EPA)

#### **Bypass**

The diversion of waste streams from any portion of a treatment facility or collection system. A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility, maintenance diversions where redundancy is provided, diversions of wastewater from one point in a collection system to another point in a collection system, or wastewater backups into buildings that are caused in the building lateral or private sewer line. (567-IA Chapter 60.2 (455B) Definitions)

#### **Bypass Pumping**

An arrangement of pipes and valves whereby the flow may be passed around a hydraulic structure or appurtenance. Also, a temporary setup to route flows around a part of a sewer system.

#### **Gallons Per Minute**

Gallons Per Minute = gpm

#### **Overflow**

(1) The excess water that flows over the ordinary limits of a sewer, manhole, or containment structure. (2) An outlet, pipe, or receptacle for the excess water.

#### **Sanitary Sewer**

A sewer intended to carry only sanitary or sanitary and industrial wastewaters from residences, commercial buildings, industrial parks, and institutions.

#### **Sanitary Sewer Overflows (SSO)**

Untreated or partially treated sewage overflows from a sanitary sewer collection system. (EPA)

#### **Sewer Main**

A sewer pipe to which building lateral/sewer are connected.

## Sanitary Sewer Overflow Response Plan (SSORP)

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### **Surcharge**

When the sewer flow exceeds the hydraulic carrying capacity of the sewer line.

### **Waterway**

1. Any body of water, other than the open sea, which is or can be used by, boats as a means of travel. 2. Any natural or artificial channel or depression in the surface of the earth, which provides a course for water flowing either continuously or intermittently.

Appendix A

IAC Environmental Protection [567] Chapter 63.6

**567 IAC**

**63.6(3) *Notification of unanticipated bypass or upset and public notices.***

In the event that a bypass or upset occurs without prior notice having been provided pursuant to 63.6(2) or as a result of mechanical failure or acts beyond the control of the owner or operator, the owner or operator of the treatment facility or collection system shall notify the department by telephone as soon as possible but not later than 12 hours after the onset or discovery.

*a.* Notification shall be made by contacting the appropriate field office during normal business hours (8 a.m. to 4:30 p.m.) or by calling the department at (515)281-8694 after normal business hours.

*b.* Notification shall include information on as many items listed in subparagraphs 63.6(3)"d"(1) through (6) as available information will allow.

*c.* When the department has been notified of an unanticipated bypass, the department shall determine if a public notice is necessary. If the department determines that public notification is necessary, the owner or operator of the treatment facility or the collection system shall prepare a public notice.

*d.* Bypasses shall be reported with the monthly operation report, as a separate attachment, that includes:

- (1) The reason for the bypass, including the amount and duration of any rainfall event that may have contributed to the bypass;
- (2) The date and time of onset or discovery of the bypass;
- (3) The duration of the bypass;
- (4) An estimate of the amount of untreated or partially treated sewage or wastewater that was discharged;
- (5) The location of the bypass; and
- (6) The name of any body of surface water that was affected by the bypass.

**63.6(4) *Monitoring, disinfection, and cleanup.***

The owner or operator of the treatment facility or collection system shall perform any additional monitoring, sampling, or analysis of the bypass or upset requested by the regional field office of the department and shall comply with the instructions of the department intended to minimize the effect of a bypass or upset on the receiving water of the state. The following requirements for disinfection and cleanup apply to all bypasses:

*a.* The department may require temporary disinfection depending on the volume and duration of the bypass, the classification of the stream affected by the bypass, and the time of year during which the bypass occurs; and



Appendix A

*b.* The department may require cleanup of any debris and waste materials deposited in the area affected by the bypass. In conjunction with the cleanup, the department may require lime application to the ground surface or disinfection of the area with chlorine solution.

**63.6(5) *Reporting of subsequent findings and additional information requested by the department.***

All subsequent findings and laboratory results concerning a bypass shall be submitted in writing to the appropriate regional field office of the department as soon as they become available. Any additional information requested by the department concerning the steps taken to minimize the effects of a bypass shall be submitted within 30 days of the request.

## Appendix B

### Procedures of how to enter "SSO & Bypass Public Notification Report Form" into city website

### Uploading a Completed SSO Bypass Public Notification Report Form

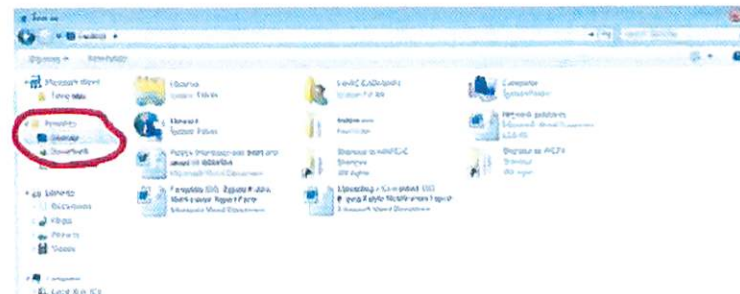
1 After completing the form go to file.



2. Click on Save As



### 3. Click on Desktop



[illegible]

The screenshot shows the 'Groups' page in the AWS IAM console. A red circle highlights the 'Add users to group' button in the top left corner. The page displays a table of existing groups, including 'AmazonECSReadOnlyAccess', 'AmazonEC2ReadOnlyAccess', and 'AmazonS3ReadOnlyAccess'. The 'AmazonEC2ReadOnlyAccess' group is selected, and its details are shown on the right, including its permissions and the 'Add users to group' button.

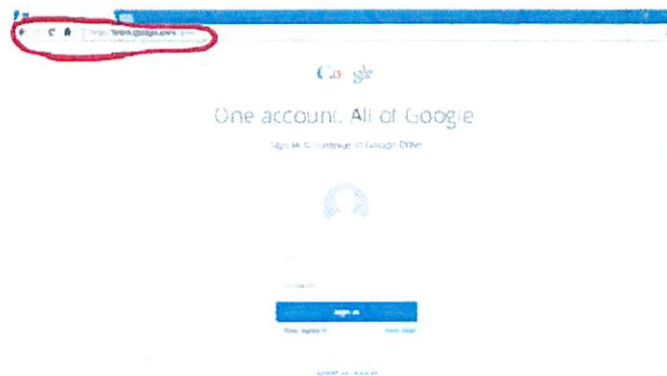
## Sanitary Sewer Overflow Response Plan (SSORP)

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6 Click Save and the PDF should be saved to your desktop



7 Open up Google Drive on the internet



8 To sign in

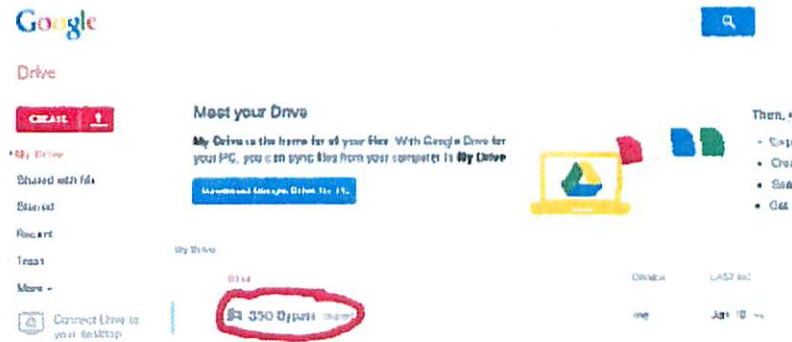
E-mail: waterloowastemanagement

Password:

## Sanitary Sewer Overflow Response Plan (SSORP)

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### 9. Click SSO Bypass



### 10. Click the upload button

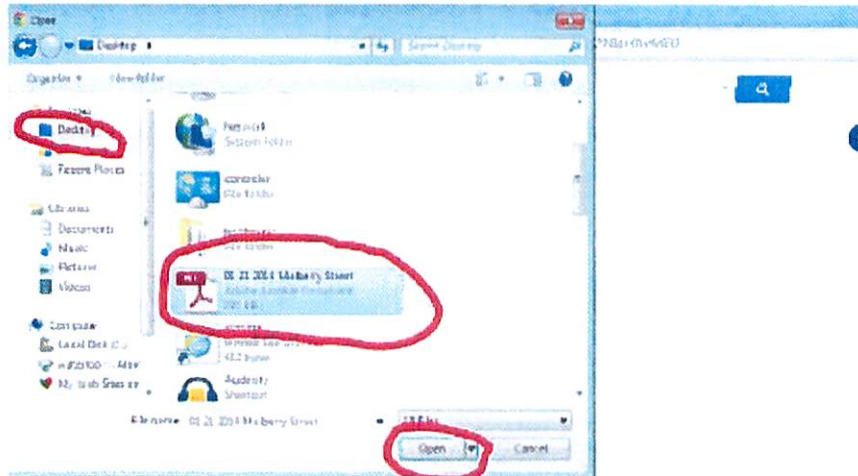


### 11. Click Files

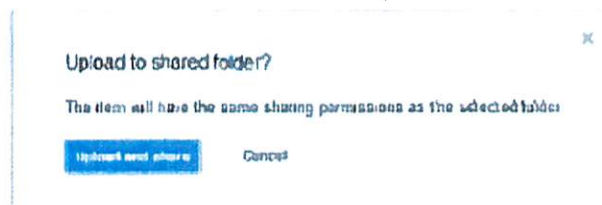
## Sanitary Sewer Overflow Response Plan (SSORP)

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12. Click desktop. Click the PDF file you created. Then Click open



13. Click upload and share



Sanitary Sewer Overflow Response Plan (SSORP)

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City of Waterloo, IA  
Public Notification  
Sanitary Sewer Overflow (SSO) & Bypass  
NPDES Permit #: 0790001

**Report Submitted/Posted Date & Time:**

Date  Time  AM ☐ PM ☐

**Address/Location of SSO/Bypass:**

**Start/Discovery Date & Time of SSO/Bypass:**

Date  Time  AM ☐ PM ☐

**Stop/Completion Date & Time of SSO/Bypass:**

Date  Time  AM ☐ PM ☐

OR ☐ Ongoing SSO/Bypass

**Reason/Cause of SSO/Bypass Event: (Check all that apply)**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Rain/Snow Melt      | <input type="checkbox"/> FOG/Fats, Oils & Grease-Blockage | <input type="checkbox"/> Lift Station Power Failure |
| <input type="checkbox"/> Equipment Failure   | <input type="checkbox"/> Roots-Blockage                   | <input type="checkbox"/> Debris/Rags-Blockage       |
| <input type="checkbox"/> Vandalism           | <input type="checkbox"/> Structural Damage                |   |
| <input type="checkbox"/> Other-explain below |   |   |

Provide a narrative description to further explain why the SSO or Bypass occurred:

**Duration of SSO/Bypass:**

Hours  Minutes  OR ☐ Ongoing SSO/Bypass

**SSO/Bypass Discharged From:**

**Did Sewage get to a Body of Water or Storm Sewer:** ☐ Yes or ☐ No

**SSO/Bypass Discharged To (Affected Water Body Name(s)):**

- ☐ Ground Surface (No release to Storm Sewer or Surface Water)  
☐ Street (No release to Storm Sewer or Surface Water)  
☐ Street to Storm Sewer:   
☐ Storm Sewer:   
☐ Surface Water Direct Discharge:

## Sanitary Sewer Overflow Response Plan (SSORP)

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- ☐ Ditch: ☐  
☐ Other, Describe: ☐

**Estimated Volume of SSO/Bypass Discharged (Gallons):**

- ☐ Estimated Gallons: ☐  
☐ No Estimated Gallons

**Action Taken/Resolution:** ☐

**"Warning Sewage" Sign(s) Posting:**

- ☐ Yes, "Warning Sewage" Sign(s) are posted  
☐ No, "Warning Sewage" Sign(s) are posted

Reference "Warning Sewage" Sign(s) Number - ☐

**Barricade(s)/Safety Tape Placement:**

- ☐ Yes, Barricade(s)/Safety Tape are set up/in place  
☐ No, Barricade(s)/Safety Tape are set up/in place

**Were Samples Collected:** ☐ Yes or ☐ No

- ☐ Iowa DNR have been notified  
☐ Email Notification to Waterloo/Cedar Falls Courier and Black Hawk County Health Department

**Comments/Other Actions Taken:** ☐

**For more information concerning this incident, please contact:**

**Contact: Larry Smith, Superintendent  
City of Waterloo, Waste Management Services Department  
319-291-4553**



## Sanitary Sewer Overflow Response Plan (SSORP)

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Public Notification email:

Public Notice:

The City of Waterloo, Iowa Waste Management Services Department would like to notify Waterloo-Cedar Falls Courier and Black Hawk County Health Department that a new "SSO & Bypass Public Notification Report Form" has been placed on the City of Waterloo's website. If there are any questions regarding this email, please contact Waste Management Services at 319-291-4553.

Thank you,

Email notification to:

Waterloo-Cedar Falls Courier  
[newsroom@wfcourier.com](mailto:newsroom@wfcourier.com)

Newsroom #: 1-800-798-1702

Tim Jamison Waterloo-Cedar Falls Courier City Reporter  
[tim.jamison@wfcourier.com](mailto:tim.jamison@wfcourier.com)

319-291-1577

Black Hawk County Health Department  
[publichealth@co.black-hawk.ia.us](mailto:publichealth@co.black-hawk.ia.us)  
[jonmcnamee@co.black-hawk.ia.us](mailto:jonmcnamee@co.black-hawk.ia.us)

Jon McNamee #: 319-291-2413

Note: Send email to all four email addresses.

Google Drive:

User name: waterloowastemanagement

Password:

Appendix C

Manhole Overflow visual pictures to determine Total Gallons

Appendix C



5 gal



10 gal



15 gal



20 gal



25 gal



30 gal



35 gal



40 gal



45 gal

Appendix D

Filling Out: **Water Pollution/Flood Control Complaint Information Form**  
**For Basement Backups, SSOs/Manhole Overflows and FEQ Basin Bypasses**  
**By Office Personnel, Plant Security and Wastewater Operators**

- When receiving phone calls for a Basement Backup or SSO/Manhole Overflow fill out a Water Pollution/Flood Control Complaint Information Form as completely as possible.
- When receiving a phone call for a Basement Backup, supervision would like the person receiving the phone call to ask:
  - To what extent is the Basement Backup?  
As: How large of an area does the water cover on the floor around your drain. Example: 5 foot by 5 foot by ½ inch deep area? Or, a 3 feet circle/diameter around the drain that is ½ inch deep?
- After receiving the complaint phone call contact the on-call sewer maintenance worker with the complaint call or contact the on-call foreman, if the on-call sewer maintenance worker can't be contacted.
- If, the received phone call is at night, ask the resident/or person calling if they could turn on their front door light, so the sewer maintenance worker may be able to see the address number.
- The On-Call Foreman will need to be contacted/called and notified of a Flow Equalization (FEQ) Basin Bypass by the wastewater operator or plant security, when the start of the bypass occurs. **A FEQ Basin Bypass must be reported not later than 12 hours after the onset or discovery of the event** by the On-Call Foreman, Operations Foreman, or Supervisor to the IDNR.

Thank You for Your Cooperation with these procedures.

# Sanitary Sewer Overflow Response Plan (SSORP)

## Appendix E

### IDNR Basement Backup, SSO/Manhole Overflow, and Bypass/Pumping Report Form

WATERLOO WATER POLLUTION FLOOD CONTROL IDNR BASEMENT BACKUP, SSO/MANHOLE OVERFLOW, AND BYPASS PUMPING REPORT FORM		
CALL IN (DISCOVERY)		<b>Use Form When:</b> Basement Backup & Main Plugged, Basement Backup & Surge, Bypass-EQ Basin, Bypass-Pumping Other & SSO Manhole Overflow  <b>CONTACT IDNR:</b> 909 West Main Suite #4 Manchester, IA 52057 Phone #: (563) 927-2640 (8 am to 4:30 pm) After Hours Phone #: (515) 281-8694 Fax #: (563) 927-2075
DATE	TIME	
NAME		
ADDRESS		
PHONE #		<b>Administrative Use:</b> Planned Action to Prevent Future SSO/Bypass:
COMPLAINT PROBLEM		
BASEMENT ACCESS: Allowed Access ( ) Denied Access ( )		
BASEMENT BACKUP ( ) MAIN PLUGGED ( ) YES ( ) NO, BYPASS-EQ Basin ( ) BYPASS-Pumping Other ( ) SURCHARGE ( ) YES ( ) NO, SSO MANHOLE OVERFLOW ( ) *Check all that apply		
REPORTING PERSON	WAS A SAMPLE COLLECTED	<b>Public Notification Postings &amp; Email:</b> City Website _____ WCF Courier _____
SITE ARRIVAL TIME	( ) YES or ( ) NO	
COMPLETION STOP DATE & TIME	DURATION OF SSO BYPASS	IDNR Person Reported To Contacted
WAS IT RAINING ( ) YES or ( ) NO	ESTIMATED VOLUME OF SEWAGE DISCHARGED	Date Time Reported to IDNR
RAINFALL AMOUNT		Authorized Representative Name (Print)
ACTION TAKEN/RESOLUTION		
REASON OF BACKUP, SSO or BYPASS: Rain Snow Melt ( ); FOG Grease ( ); LS Power Failure ( ); Equipment Failure ( ); Roots ( ); Debris Rags ( ); Vandalism ( ); Structural Damage ( ); Other ( ) *Check all that apply		Signature of Authorized Representative
DID THE SEWAGE GET TO A BODY OF WATER OR STORM DRAIN? ( ) YES or ( ) NO, AFFECTED WATER BODY NAME(S):		
POSTED WARNING SEWAGE SIGN ( ) YES ( ) NO	ON-CALL FOREMAN	
Instructions: Report to IDNR no later than 12 hours after the onset or discovery of the event. If there is a SSO/Bypass: Barricade Safety Tape affected area, clean up sewage, disinfect contaminated area with chlorine bleach or lime & Post Warning Sewage sign(s)		
Notes: Must give "Estimated Volume of Sewage Discharged" and turn in form to On-Call Foreman or Supervisor Form Revison: 1-14		

**SEWER OVERFLOW SHEETS**

***\*Collect Two Sample Bottles\****

**PUMP NUMBER:**

**PUMP START DATE/TIME:**

**PUMP STOP DATE/TIME:**

**LOCATION:**

**PUMP SIZE USED:**

**PUMP SPEED (minimum, medium or high)**

**PUMP START/STOP HOURS:**

**COLLECTOR:**

**DELIVER SAMPLES ASAP TO LAB.**  
**KEEP SAMPLES COOL OR REFRIGERATED**  
**EACH SAMPLE MUST BE ACCOMPANIED BY THIS SHEET.**

## Sanitary Sewer Overflow Response Plan (SSORP)

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May 28, 2013  
Revision: Sept. 22, 2014

Did sewage get to a Body of Water or Storm Drain  
Affected Water Body Name(s):

- 2415 or 2566 Saratoga Dr: storm drain to Dry Run Creek to Cedar River
- 1900 Block Downing Ave: storm drain to Black Hawk Creek to Cedar River  
(Between Westland Ave & Scott Ave)
- Upland Ave & Muncy Ave: storm drain to Black Hawk Creek to Cedar River
- 242 N. Hackett Rd. Lift Station: Unnamed Creek to Cedar River  
(Castle Hill Watershed)
- Letsch Rd & Pleasant Valley Dr: ditch in Pleasant Valley Watershed to Cedar River
- West 8<sup>th</sup> St & Locke Ave: storm drain to Dry Run Creek to Cedar River
- Roland Ave & Locke Ave: storm drain to Dry Run Creek to Cedar River
- Sager Ave & Linbud Ln: storm drain to Black Hawk Creek to Cedar River
- Hall Ave & Midland St: storm drain to Cedar River
- 800 Block Jane St: ditch to Sunnyside Creek to Black Hawk Creek to Cedar River

Appendix F

N. Hackett Lift Station Overflow (Bypass) Controls and Procedures

Holding Tank level controls:

1. Lower float ball signals the dialer to activate the call list.
  - This float ball level is located 5 ft. below the bottom of the overflow pipes, from lower float ball alarm to upper float ball overflow an estimated time of one and one half hour until overflow.
2. Upper float ball signals the Bypass hour meter to run when the Holding Tank pump runs.
  - This float ball level is located evenly with the bottom of the overflow pipes.
  - This float ball does not activate an alarm, but only the Bypass hour meter and the hour meter ON indicator light above the hour meter.
3. If a Holding Tank Overflow occurs, the total hours on the Bypass hour meter for that overflow period will need to be recorded in a filled out SSO Report/IDNR Basement Backup and Manhole Overflow Report Form.
  - During All Overflows there must be one set of two sample bottles (one sample bottle has Acid in it) collected, filled, and delivered to the lab or placed into the lab refrigerator or placed into waste hauler refrigerator during that 24-hour period (a 24-hour period is Saturday at 7 a.m. to Sunday at 7 a.m.).
4. If there is a High Wetwell Alarm the Hold Tank Pump has been running.
5. **All employees who see an Overflow must turn in the Overflow to the On-Call Foreman or Supervisor.**
6. Holding Tank size:
  - 18.5' wide x 62' long x 14.33' depth = 16,436.5 cu. ft.
  - 16,436.5 cu. ft. x 7.48 gals/cu. ft. = 122,945 gals total
  - 122,945 gals/14.33 ft. depth = 8,580 gals/ft.
7. Estimated Holding Tank Pump Gallons per Minute = 890 gpm

# Appendix 5



**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 5: Long Term Flow and Rainfall Monitoring**

**Long-Term Flow and Rainfall Monitoring Program**

1. The Long-Term Flow and Rainfall Monitoring Program is intended to provide the City with the ability to assess overall Sanitary Sewer System performance and track wastewater flow patterns across the City. The data collected during this Program are expected to:

- a. assist in determining the potential types of Infiltration/Inflow sources in the Sanitary Sewer System,
- b. provide a basis for identifying specific geographic areas for focused Infiltration/Inflow field investigations,
- c. provide wastewater flow and rainfall data for any ongoing efforts to calibrate and apply the hydraulic model,
- d. help identify capacity-restricted existing Sanitary Sewer System components,
- e. help evaluate the effectiveness of Sanitary Sewer System remedial measures constructed to reduce Infiltration/Inflow and to resolve hydraulic constraints, and
- f. help identify new capacity and condition issues as they develop.

2. The Long-Term Flow and Rainfall Monitoring Program shall be performed as part of the City's CMOM Program. At the conclusion of the Capacity Assessment and as included in the Sanitary Sewer Master Plan, the City shall identify locations where long-term flow and rainfall monitoring will be performed.

3. Flow monitoring locations under the Long-Term Flow and Rainfall Monitoring Program may include a combination of permanently-installed pump station flow meters and permanently-installed gravity sewer flow meters as determined by the City using sound engineering judgment. Temporary flow meters may be also used to supplement permanent meter data in specific drainage areas to assist in focusing the monitoring data collected. The number of permanent flow metering locations should be based upon typical rainfall distribution patterns across the City, coordinated with the City's Sanitary Sewer System analysis and operations objectives. Pump station flow meters should be of a direct-reading, continuous-recording type, capable of taking totalized readings based upon set time periods and at uniform incremental time intervals within those set periods consistent with the input data requirements of the City's Sanitary Sewer System hydraulic model. Gravity sewer flow meters should be continuous-recording, velocity-depth type meters, unless impracticable, capable of taking totalized readings based upon set time

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 5: Long Term Flow and Rainfall Monitoring**

periods and at uniform incremental time intervals within those set periods consistent with the input data requirements of the City's Sanitary Sewer System hydraulic model.

4. The number and locations of permanent rainfall monitoring locations under the Long-Term Flow and Rainfall Monitoring Program should be based on typical rainfall distributions across the City. As much as is practical, rain gauge locations should be coordinated with the permanent flow monitoring locations. Rain gauges should be of a continuous-recording type capable of taking totalized readings based upon set time periods and at uniform incremental time intervals within those set periods consistent with the input data requirements of the City's Sanitary Sewer System hydraulic model. When temporary flow meters are being utilized to supplement the permanent flow meters to gather more detailed flow data in specific drainage areas, the City should evaluate if additional temporary continuous-recording rain gauges also should be deployed.

5. The City shall maintain records of the flow metering and rainfall monitoring collected for a running period of not less than 5-years to provide a basis for determining and demonstrating wastewater flow patterns and trends in the Sanitary Sewer System and establishing the effects of rainfall on those patterns and trends.

# Appendix 6

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 6: Sanitary Sewer System Condition Assessment**

**Sanitary Sewer System Condition Assessment**

The City shall conduct a targeted inspection and assessment of the condition of its Gravity Sewer Mains, Manholes, Pumping Stations, and Force Mains within the Sewer System. The targeted inspection and assessment activities are designed to identify structural defects and sources of Inflow and Infiltration (I/I) in the Sewer System that have caused or significantly contributed to previous SSOs, Building Backups and Prohibited Bypasses; and/or are likely to cause or significantly contribute to future SSOs, Building Backups and Prohibited Bypasses. The Condition Assessment shall evaluate the condition of the Sewer System through a series of investigative steps, including the following specific activities and taking into consideration the process outlined in the attached Condition Assessment Process Flowchart.

1. The Condition Assessment is intended to:
  - a. Identify stormwater cross connections and unauthorized direct connections in the Sewer System;
  - b. Identify conditions in the Sewer System that contribute to SSOs, Building Backups and Prohibited Bypasses, such as:
    - i. physical and/or structural conditions of Gravity Sewer Lines and Manholes rated in accordance with the City's condition assessment rating program;
    - ii. I/I sources in the Gravity Sewer Lines and Manholes rated in accordance with the City's condition assessment rating program;
    - iii. physical conditions and design constraints of Force Mains; and
    - iv. physical conditions and design constraints of Pumping Stations, including failure of individual pumps, lack of redundant pumps, and lack of alternative power sources.
  - c. Identify Force Main conditions based upon City maintenance records. Perform a visible inspection and function tests of accessible Force Main appurtenances, such as, but not limited to: control valves, surge protection valves, air relief valve and vacuum breaker valves. Visually inspect the ground surface over the entire length of each Force Main for leakage or other indications of force main deterioration;

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 6: Sanitary Sewer System Condition Assessment**

- d. Include a force main inventory listing that includes the force mains in the Sewer System indicating pipe material(s), age or installation date, diameter, length, special corrosion protection measures, if any, and typical flow rates and operating pressures.
2. Data Review and Management. In preparing the Condition Assessment, the City shall review known data concerning SSOs, Building Backups and Prohibited Bypasses, and Sewer System attributes, and identify additional Sewer System attribute data needed.
3. Investigative Activities. As part of its Condition Assessment, the City shall perform investigative activities in Service Areas or portions of Service Areas determined to have excessive wet-weather flow suspected through best engineering judgment to significantly contribute to SSOs, Building Backups and Prohibited Bypasses, and increased flow at the WWTP that may cause the facility to exceed permit limitations. The investigative activities shall identify physical conditions and/or design constraints of the Sanitary Sewer System (including Force Mains and Pump Stations) that cause or significantly contribute to SSOs, Building Backups and Prohibited Bypasses, or increased flow at the WWTP that may cause the facility to exceed permit limitations.
  - a. The investigative activities shall be sufficient to allow characterizations of Sewer System structural conditions and other Sewer System limitations that contribute to SSOs, Building Backups and Prohibited Bypasses in the Service Areas. The investigative activities shall include CCTV inspection of non-plastic Gravity Sewer Lines, visual inspection of manholes, and where appropriate the following additional investigations as necessary:
    - i. Smoke testing;
    - ii. Visual inspections, including CCTV as necessary, of other Gravity Sewer Lines suspected by the City to have severe structural defects that have caused previous SSOs, Building Backups and Prohibited Bypasses or are likely to cause future SSOs, Building Backups and Prohibited Bypasses;
    - iii. Dye testing of storm sewers with concurrent CCTV of nearby sanitary sewers; and,

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 6: Sanitary Sewer System Condition Assessment**

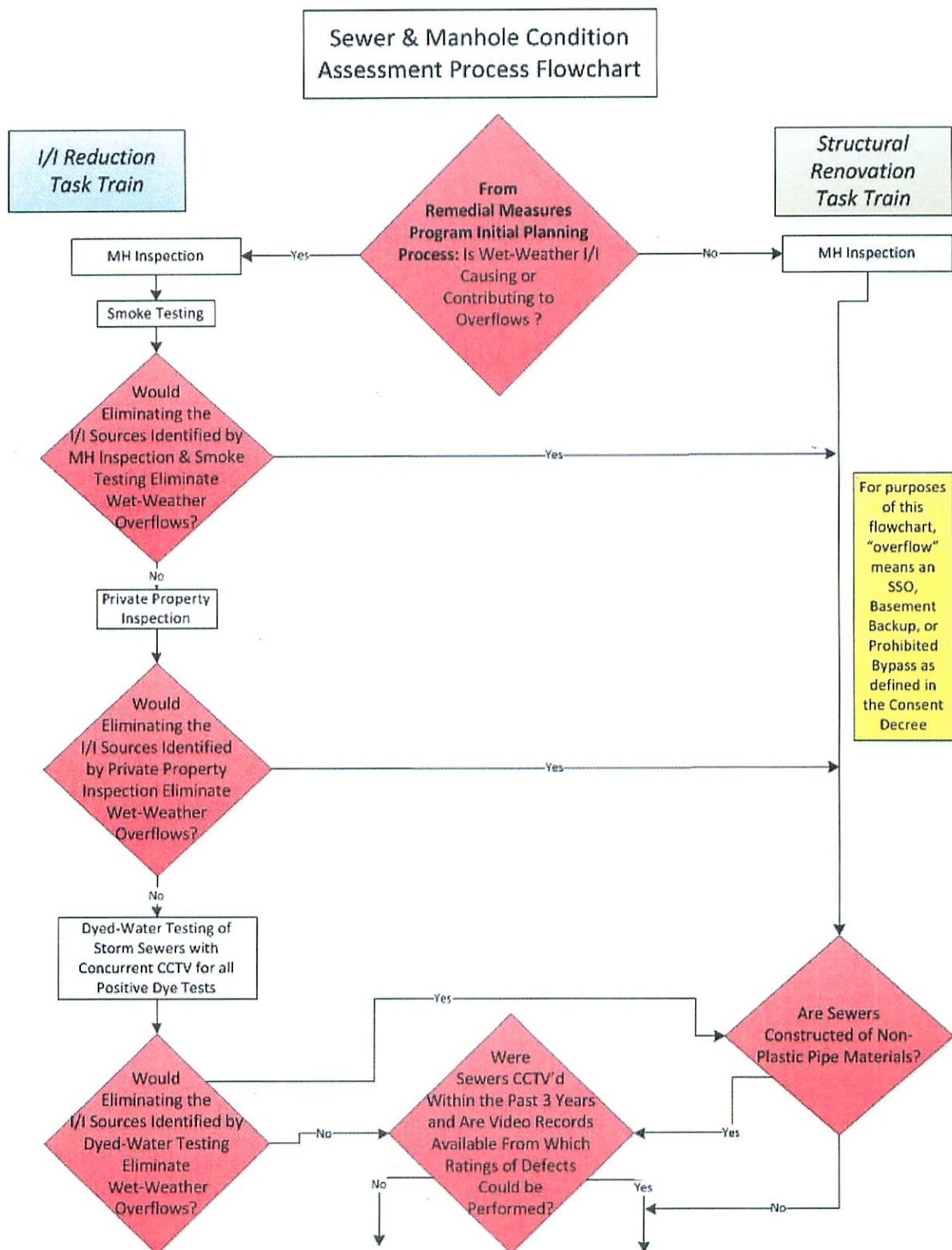
- iv. External building inspections.
- b. The City shall inspect its Manholes and assess Gravity Sewer Mains eight (8) inches or greater in diameter that have not been slip-lined, CIPP-lined, replaced, or pipe-burst in accordance with the schedule below. Gravity Sewer Mains and Manholes that have been inspected since 2012 shall be credited towards the City's compliance obligations. The City may use CCTV, sonar, 360-degree video, laser imaging, or other methods normally utilized by other sewer management agencies to perform the Gravity Sewer Main inspections.
  - i. Manholes and Gravity Sewer Mains within Service Areas 15 and 16 shall be assessed by September 30, 2016 and the results reported, in accordance with Paragraph 4 of this Appendix, by December 31, 2016.
  - ii. Manholes and Gravity Sewer Mains within those portions of Service Areas 10, 11, 12, 13 and 19 determined by the City using best engineering judgment to have excessive wet-weather flow, shall be assessed and results reported, in accordance with Paragraph 4 of this Appendix, as part of the Master Plan due December 31, 2017.
  - iii. Manholes and Gravity Sewer Mains not assessed pursuant to paragraph 3.b.i or 3.b.ii above shall be assessed in accordance with the CMOM program and reported annually in accordance with Paragraphs 43 and 44 of the Consent Decree.
- c. The City shall inspect all of its Pumping Stations, and Force Mains in accordance with the schedule below, using appropriate methods. Any Force Main inspections conducted by the City since January 1, 2012, shall count towards the City's compliance with this paragraph.
  - i. Pumping Stations, and Force Mains located within Service Areas 15 and 16 shall be assessed by September 30, 2016 and the results reported, in accordance with Paragraph 4 of this Appendix, by December 31, 2016.
  - ii. Pumping Stations, and Force Mains located within those portions of Service Areas 10, 11, 12, 13 and 19 determined by the City using best engineering judgment to have excessive wet-weather flow, shall be assessed and results reported, in accordance with Paragraph 4 of this

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 6: Sanitary Sewer System Condition Assessment**

Appendix, as part of the Master Plan due December 31, 2017.

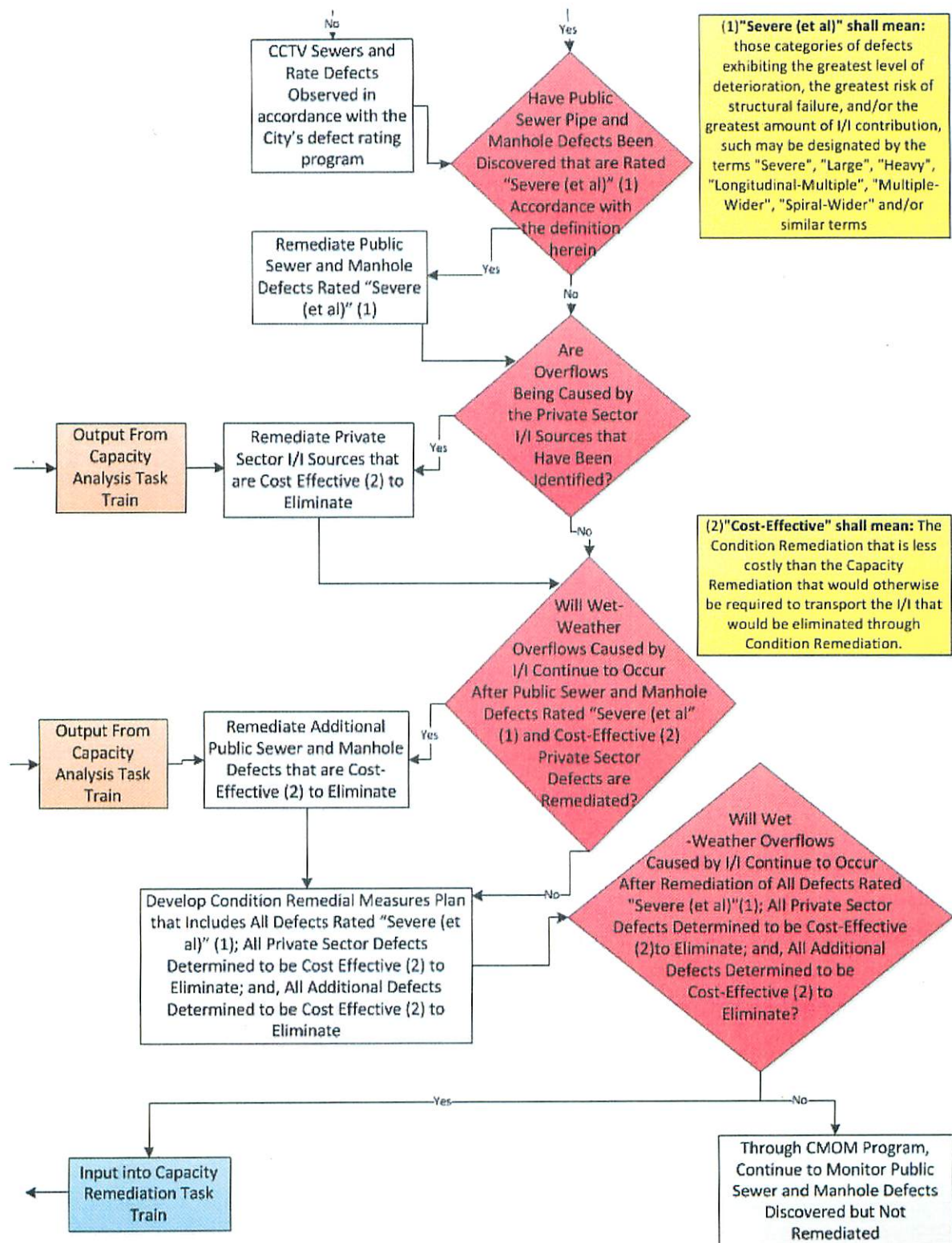
- iii. Pumping Stations, and Force Mains not assessed pursuant to paragraph 3.c.i or 3.c.ii above shall be assessed in accordance with the CMOM program and reported annually in accordance with Paragraphs 43 and 44 of the Consent Decree.
- 4. The City's reports on the status of the Capacity Assessment activities, pursuant to Paragraphs 3.b.i, 3.b.ii, 3.c.i, and 3.c.ii of this Appendix, shall provide all information required under the Condition Assessment Report Template as applicable to the specific assessment activities performed by the City. The Condition Assessment reports shall be submitted to EPA in accordance with Section VII of the Consent Decree (Review and Approval Procedures).

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 6: Sanitary Sewer System Condition Assessment**





**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 6: Sanitary Sewer System Condition Assessment**



## Appendix 6

### Sanitary Sewer System Condition Assessment Report Template

The following Template format is intended to expedite the City's effort to prepare Condition Assessments and to expedite EPA review of those Assessments. EPA recognizes that some modifications in the Template format may be necessary to match actual Assessment activities and findings. Use of this Template is at the City's option, but all information herein is required unless the City demonstrates that such information is not applicable due to the outcomes of the specific Condition Assessment activities performed.

#### I. Cover

#### II. Certification Declaration

[Required certification, with language specified by the Consent Decree, signed by a responsible official of Waterloo]

#### III. Table of Contents

[List of sections, tables, figures and appendices included in this report]

#### IV. Acronyms and Abbreviations

[Definitions of abbreviations and acronyms included in this report]

#### V. Introduction

##### A. Purpose

This Report was prepared and submitted pursuant to Paragraph 19 of the Consent Decree.

##### B. Regulatory Requirements

This Report summarizes Condition Assessment inspections completed by Waterloo as required by Paragraphs 19 and 20 of the Consent Decree. These Condition Assessment requirements include Gravity Main Sewer Inspections, Manhole Inspections, Pump Stations Inspections and Force Main Inspections.

#### VI. System-Wide Inspection Activities

##### A. Inspection Method Overview

[Provide a brief description of each inspection method utilized by Waterloo; with a reference to the Condition Assessment and Remediation Process and Guidelines Appendix. Add a discussion of any new inspection technologies utilized, if applicable]

**Appendix 6**  
**Sanitary Sewer System Condition Assessment Report Template**

**B. Gravity Sewer Main Inspection Table**

[Include a table showing the location of the inspections with upstream and downstream manhole number, small diameter and large diameter pipe, inspection method (CCTV, Pole Camera, Visual Inspection), and type of visual inspection (Smoke testing, mechanical proofing, cleaning, dye testing).]

**C. Gravity Sewer Main Inspection Status**

**Gravity Sewer Main Inspection Progress Summary**

Asset Description	Inspection Method	Total Miles of Inspections Completed	Total miles in Service Area	%Complete
Gravity Sewer - Concrete Pipe and Clay Pipe Installed Prior to 1973	CCTV or other approved techniques			
Gravity Sewer - Clay Pipe Installed from 1973 through 1982	Pole Camera, CCTV, or other approved techniques			
Gravity Sewer - Other Pipe	Pole Camera, CCTV or other approved techniques			
	Visual Inspection – Smoke Testing			
	Visual Inspection – Mech. Proofing			
	Visual Inspection – Sewer Cleaning Findings			
	Visual Inspection – Dye Testing			
Service Area total				

**D. Manhole Inspection Status**

**Manhole Inspection Summary**

Asset Description	Inspection Method	Number of Manholes in Service Area	Inspections Completed	% Complete
Service Area _ Manholes	Visual Inspection			
Note 2: Includes manhole inspections since January 1, 2012.				

**E. Pump Station Inspection Status**

**Pump Station Inspection Summary**

Pump Station Name	Service Area	Scheduled inspection frequency	Backup Power	Overflow Storage MG



**Appendix 6**  
**Sanitary Sewer System Condition Assessment Report Template**

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**F. Force Main Inspection Status**

**Force Main Inspection Summary**

Asset Description	Inspection Method	Total Miles of Inspections Completed	Total miles in Service Area	%Complete
Force Main				

**VII. Categorization of Sewer Main and Manhole Condition**

**A. Guidelines**

[Provide a brief description of the guidelines used for categorizing condition; consistent with the Condition Assessment and Remediation Process and Guidelines Appendix]

**B. Condition Categorization Summary**

**Condition Categorization Summary Table**

Condition Category	Miles of Sewer Mains	Number of Manholes	Pump Stations	Force Mains
Category A – Severe				
Category B – Medium				
Category C – Light				

**VIII. Condition Assessment Results**

**A. Condition Assessment Guidelines**

[Provide a brief description of the guidelines used for condition assessment activities; consistent with the Condition Assessment and Remediation Process and Guidelines Appendix. Provide a brief description of how Waterloo applied the guidelines to develop the quantities of structural defects selected for Remedial Measures Alternative Analysis, Monitoring (CMOM) and Maintenance Analysis (CMOM).]

**B. Condition Assessment Results**

Condition Category	Miles of Sewer Mains	Number of Manholes	Pump Stations	Force Mains
Category A – Severe				
Category B – Medium				
Category C – Light				

## Appendix 7

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 7: Hydraulic Model**

**Hydraulic Model**

1. The hydraulic model is intended to provide the City with the ability to assess overall Sanitary Sewer System performance and track wastewater flow patterns across the City. The hydraulic model is expected to:
  - a. help identify capacity-restricted existing Sanitary Sewer System components,
  - b. help develop and evaluate Sanitary Sewer System remedial measures alternatives to resolve constraints that result in a lack of Adequate Capacity,
  - c. help develop final sizing parameters for capacity remedial measures selected by the City for implementation,
  - d. help evaluate the overall hydraulic effects of Sanitary Sewer System capacity remedial measures constructed to resolve hydraulic constraints, and
  - e. help analyze the hydraulic impacts of increased Infiltration/Inflow resulting from Sanitary Sewer System aging and of growth across the City.
2. Hydraulic model development shall be performed in accordance with sound engineering practices taking into consideration the following: Sewer System Infrastructure Analysis and Rehabilitation, EPA/625/6-911030; Existing Sewer Evaluation and Rehabilitation, WEF MOP FD-6, 3rd edition, 2009; Prevention and Control of Sewer System Overflows, WEF MOP FD-17, 3rd edition, 2011 (hereinafter “the Manual”); A Guide to Short Term Flow Surveys of Sewer Systems, WRC Engineering, 1987; the Code of Practice for the Hydraulic Modeling of Sewer Systems Version 3.001, December 2002, prepared by The Chartered Institution of Water and Environmental Management (CIWEM-formerly WaPUG).
3. The City shall continue to use XP SWMM 2014 by XP Solutions as the software platform for the computerized hydraulic model. The use of more recently released versions of XP SWMM software or the use of other technically comparable alternative software platforms for the model will be at the sole discretion of the City. The City shall provide written notice to EPA of any changes in the brand or version of hydraulic modeling software from XP SWMM 2014 prior to employing that software for Sanitary Sewer System analysis.
4. The City shall update its Sanitary Sewer System hydraulic model as necessary to include

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 7: Hydraulic Model**

all City owned Pump Stations, Force Mains, Equalization Facilities or other hydraulic control facilities, and documented Gravity Sewer Lines 8-inches and larger, based upon current physical parameter data and other hydraulic property information known to the City. The hydraulic model shall also include all additional Gravity Sewer Lines as necessary to extend the hydraulic model at least one Pipe Segment upstream of the locations of recurring wet-weather overflows (SSOs, Building Backups and Prohibited Bypasses), where such information is known and available to the City.

5. The City shall update, calibrate and verify the hydraulic model to accurately represent the Sanitary Sewer System utilizing currently accepted engineering procedures. The hydraulic model dry-weather calibration/verification process conducted for development of the final model calibration report shall be based upon at least one weekly dry-weather calibration data set and one weekly dry-weather verification data set (if rainfalls disrupt the collection of continuous weekly periods of dry-weather flow data, the weekly calibration/verification data sets may be compiled from dry-weather flow data collected on the appropriate days of the week that are not consecutive by calendar). The hydraulic model wet-weather calibration/verification process conducted for development of the final model calibration report shall be based upon at least three independent precipitation event calibration data sets and one independent precipitation event verification data set, including rainfall data, metered hydrographs, pump station flow data, and other Sanitary Sewer System flow data as may be available. The independent rainfall events selected for calibration and verification shall be based upon sound engineering judgement and shall be of an appropriate combination of intensity and duration to raise peak flowrates in the Sanitary Sewer System significantly. The variations of modeled flows (determined through the hydraulic model verification process) from field-measured sanitary sewer flows shall, to the extent practical, generally conform to the numeric ranges and other model performance criteria presented in Table 5.2 of the Manual.

6. The Hydraulic Model shall provide a sufficient understanding of the response of the City's Sanitary Sewer System to wet weather events to enable the City to identify appropriate remedial measures to address capacity limitations identified in its Sewer System. In assessing the capacity of the Sewer System, the City shall run the hydraulic model, under normal groundwater levels, using the following analysis rainfall amounts and intensity time-distributions in accordance with *Rainfall Frequency Atlas Of The Midwest* ("Bulletin 71"),

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 7: Hydraulic Model**

dated 1992, prepared by the Midwestern Climate Center and the Illinois State Water Survey:

2-year/6-hour rainfall – 2.18 inches total precipitation

5-year/6-hour rainfall – 2.75 inches total precipitation

10-year/6-hour rainfall – 3.23 inches total precipitation.

7. The City shall complete the initial development of an updated hydraulic model of its Sewer System that has been calibrated to 2015 data no later than February 29, 2016.

8. The City shall complete the development of the hydraulic model of its Sewer System, using updated flow and rainfall data, with the results reported no later than August 31, 2016.

On or before that date, the City shall submit a final model calibration report containing the following information:

- a. A description of the hydraulic modeling software employed if different from XP SWMM 2014.
- b. Hydraulic model development activities, including: descriptions of the elements of the Sewer System included in the hydraulic model; incorporation of the City's most recent GIS data; and the City's efforts to determine actual pump station discharge capacities that were incorporated into the hydraulic model.
- c. Summary of flow metering and rainfall monitoring conducted for hydraulic model calibration and verification.
- d. Calibration/verification graphs or tabulations of model results for the developed model, demonstrating that the variations between modeled and metered flows meet the tolerances set forth in Table 5.2 of the Manual.
- e. A list and summary of the Sewer System capacity constraints identified through analyses of the rainfall events identified under Paragraph 6 of this Appendix that have or will be included within the Sewer System Capacity Assessment activities.



## Appendix 8

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 8: Sanitary Sewer System Capacity Assessment**

**Sanitary Sewer System Capacity Assessment**

1. The City shall assess the capacity of the Sewer System as described herein in accordance with the following schedule:
  - a. Service Areas 15 and 16 shall be assessed by September 30, 2016 and the results reported, in accordance with Paragraph 7 of this Appendix, by December 31, 2016.
  - b. Service Areas 18 and 19 shall be assessed and results reported, in accordance with Paragraph 7 of this Appendix, in the Master Plan to be submitted December 31, 2017.
  - c. Service Areas not assessed pursuant to paragraphs 1.a or 1.b above shall be assessed in accordance with the CMOM program and reported annually in accordance with Paragraphs 43 and 44 of the Consent Decree.
2. During the Capacity Assessment, the City shall assess the existing and future capacity of the Sewer System taking into consideration the process outlined in the attached Capacity Assessment Process Flowchart.
3. The City shall assess the existing and future capacity of the Sanitary Sewer System to convey predicted peak flows resulting from the 2-year, 5-year and 10-year rainfalls. The Sewer System's performance during these three storm events shall be evaluated using the calibrated and field-verified hydraulic model. The Capacity Assessment shall account for projected population and flow rate growth for twenty (20) years following the Effective Date of this Consent Decree.
4. The Capacity Assessment is designed to:
  - a. identify Service Areas with Inflow and Infiltration (I/I), which are causing and/or contributing to SSOs, Building Backups, and Prohibited Bypasses;
  - b. identify and quantify sources of I/I within the Service Areas; and
  - c. identify known SSOs, Building Backups and Prohibited Bypasses within each Service Area.
5. Data Review and Management. In preparing the Capacity Assessment, the City shall compare model output of wet weather SSOs, Building Backups and Prohibited Bypasses locations and surcharging with known data concerning SSOs, Building Backups and Prohibited Bypasses, sewage flows, and WWTP flows and capacity. Where there is a correlation between the model and maintenance records/institutional knowledge, the City shall proceed in categorizing wet-

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 8: Sanitary Sewer System Capacity Assessment**

weather SSOs, wet-weather Building Backups and Prohibited Bypasses in a manner generally consistent with the “Type A/B/C” classification approach reflected in the Capacity Assessment Process Flow Chart. Other circumstances without a correlation should be scheduled for further evaluation potentially with more flow monitoring in the vicinity of the problem area or under the CMOM program.

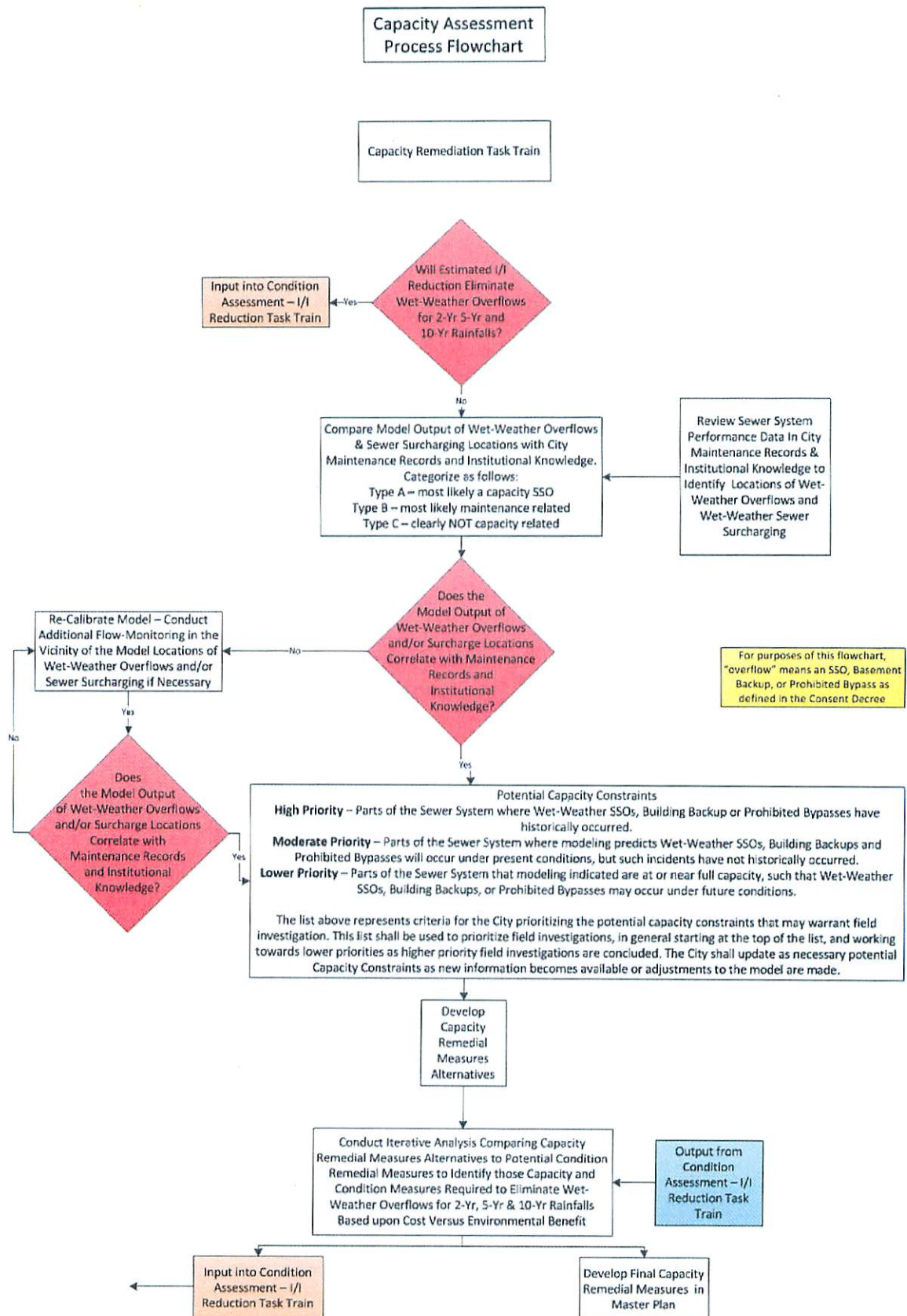
6. Using the results of the Capacity Assessment, the City shall categorize potential capacity constraints following the priority criteria listed below. This list will be used as a guide for developing remedial measure alternatives and scheduling the selected remedial measures, which shall be presented in the Master Plan.

a. Priority criteria:

- i. High Priority: Parts of the Sewer System where SSOs, wet-weather Building Backups or Prohibited Bypasses have historically occurred.
- ii. Moderate Priority: Parts of the Sewer System where modeling predicts SSOs, wet-weather Building Backups and Prohibited Bypasses will occur under present conditions, but such incidents have not historically occurred.
- iii. Lower Priority: Parts of the Sewer System that modeling indicates are at or near full capacity, such that SSOs, wet-weather Building Backups, or Prohibited Bypasses may occur under future conditions.

7. The City’s reports on the status of the Capacity Assessment activities, pursuant to Paragraphs 1.a and 1.b of this Appendix, shall provide all information required under the Capacity Assessment Report Template as applicable to the specific assessment activities performed by the City. The Capacity Assessment reports shall be submitted to EPA in accordance with Section VII of the Consent Decree (Review and Approval Procedures).

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 8: Sanitary Sewer System Capacity Assessment**



## Appendix 8

### Sanitary Sewer System Capacity Assessment Report Template

The following Template format is intended to expedite the City's effort to prepare Capacity Assessment Report and to expedite EPA review of that Report. EPA recognizes that some modifications in the Template format may be necessary to match actual Capacity Assessment results. Use of this Template is at the City's option, but all information herein is required unless the City demonstrates that such information is not applicable due to the outcome of the Capacity Assessment.

#### I. Cover

[Denote the date of submittal and Update Number (e.g. Original submission, Update 1, Update 2, etc.)]

#### II. Certification Declaration

[Required certification, with language specified by the Consent Decree, signed by a responsible official of Waterloo. A new certification is required for each submitted update.]

#### III. Table of Contents

[List of sections, tables, figures and appendices included in this report]

#### IV. Acronyms and Abbreviations

[Definitions of abbreviations and acronyms included in this report]

#### V. Introduction

##### A. Purpose

This Report was prepared and submitted pursuant to Paragraphs 24 and 25 of the Consent Decree.

##### B. Regulatory Requirements

This Report summarizes Capacity Assessment activities pursuant to Paragraphs 24 and 25 of the Consent Decree. These Capacity Assessment requirements include wet-weather SSO, Building Backup and Prohibited Bypass verification, hydraulic modeling evaluation and field investigation activities.

#### VI. Wet-Weather Related SSO, Building Backup and Prohibited Bypass Categorization

##### A. Guidelines



**Appendix 8**  
**Sanitary Sewer System Capacity Assessment Report Template**

[Provide a brief description of the guidelines used; with a reference to the Capacity Assessment Process Flowchart, to identify Type A, B, and C SSOs, Building Backups and Prohibited Bypasses in the Service Area. Ultimately, continue to update this process description and resulting Type A-C SSOs, Building Backups and Prohibited Bypasses for each Service Area that is evaluated.]

**B. Wet-Weather SSO, Building Backup and Prohibited Bypass Categorization Summary**

**Wet Weather SSO, Building Backup and Prohibited Bypass Categorization**

Type	Number of SSOs, Building Backups and Prohibited Bypasses
Type A – Most likely capacity-related	
Type B – Most likely maintenance-related	
Type C – Clearly not capacity related	
Total	

**C. Map of Wet-Weather SSOs, Building Backups and Prohibited Bypasses**

[Include a single, legible map showing the location of Type A, B, and C wet-weather SSOs, Building Backups and Prohibited Bypasses, a map showing the location of Type A wet-weather SSOs, Building Backups and Prohibited Bypasses, a map showing the location of Type B wet-weather SSOs, Building Backups and Prohibited Bypasses, and a map showing the location of Type C wet-weather SSOs, Building Backups and Prohibited Bypasses.]

**VII. System-wide Hydraulic Modeling Evaluation**

**A. Model Overview**

[Provide a brief description of the model including software and existing population scenario, consistent with the Hydraulic Model Appendix and Capacity Assessment Process Flowchart.]

**B. Model Description**

[Include a written summary of the pipes included in the model and an affirmation that the model sewers conform to the requirements of the CD.]

**C. Model Setup and Calibration**

[Provide a summary of entire model setup, calibration, and verification process].

**Appendix 8**  
**Sanitary Sewer System Capacity Assessment Report Template**

**D. Prioritization of Potential Capacity Constraints**

[Provide a brief description of the guidelines used to prioritize potential capacity constraints; consistent with the Capacity Assessment Process Flowchart].

**Example of a Potential Capacity Constraints Summary**

Category	Number of Potential Capacity Constraints
High Priority: Parts of the Sewer System where SSOs, Building Backup or Prohibited Bypasses have historically occurred.	
Moderate Priority: Parts of the Sewer System where modeling predicts SSOs, Building Backups and Prohibited Bypasses will occur under present conditions, but such incidents have <u>not</u> historically occurred.	
Lower Priority: Parts of the Sewer System that modeling indicates are at or near full capacity, such that SSOs, Building Backups, or Prohibited Bypasses may occur under future conditions.	
Other Priority Areas: (describe)	
<b>Total</b>	

**E. Map of Potential Capacity Constraints**

[Include a map showing potential Capacity Constraints for all Priority Categories. Include separate maps for each Priority Category showing the location of Potential Capacity Constraints.]

**VIII. Field Investigations of Potential Capacity Constraints**

**A. Guidelines**

[Provide a brief description of the guidelines used for selecting the type of field investigation technique for each potential capacity constraint; consistent with Capacity Assessment Process Flowchart.]

**B. Field Investigation Status**

**Completed Field Investigations**

Technique	Number of Potential Capacity Constraints			
	Priority 1	Priority 2	Priority 3	Priority 4
Flow Metering				
Smart Covers				
Chalking				
Visual Inspection – Smoke Testing				
Visual Inspection – Mechanical Proofing				

**Appendix 8**  
**Sanitary Sewer System Capacity Assessment Report Template**

Visual Inspection – Sewer Cleaning Findings				
Visual Inspection – Dye Testing				
Other - describe (if applicable)				
Monitor in Future per Capacity Assessment and Remediation Process and Guidelines Appendix (CMOM)				
<b>Total</b>				

**In-Progress Field Investigations**

Technique	Number of Potential Capacity Constraints			
	Priority 1	Priority 2	Priority 3	Priority 4
Flow Metering				
Smart Covers				
Chalking				
Visual Inspection – Smoke Testing				
Visual Inspection – Mechanical Proofing				
Visual Inspection – Sewer Cleaning Findings				
Visual Inspection – Dye Testing				
Other -describe (if applicable)				
<b>Total</b>				

**C. Completed Field Investigations**

[Include a table for each Priority Category showing the upstream and downstream manhole numbers of each field investigation by technique.]

**D. In-Progress Field Investigations**

[Include a table for each Priority Category showing upstream and downstream manhole numbers of each field investigation by technique.]

**IX. Capacity Assessment Results**

**A. Capacity Assessment Guidelines**

[Provide a brief description of the guidelines used for assessing field investigation results; consistent with Capacity Assessment Flowchart and those included in the Master Plan.]

**B. Capacity Assessment Results**



**Appendix 8**  
**Sanitary Sewer System Capacity Assessment Report Template**

Capacity Assessment Result	Number of Potential Capacity Constraints
Remedial Measures Alternatives Analysis	
Monitor in the future CMOM program per Capacity Assessment Process Flowchart.	
Not a Capacity Constraint	
<b>Total</b>	

**C. Capacity Assessment Results**

[Include a color-coded map showing the location of the Capacity Assessment Results. In addition, a table summarizing results of Capacity Assessment, including upstream and downstream manhole number. Show a clear path as to how identified and verified capacity constraints were either included in the Master Plan, monitored in the CMOM program, or determined not to be a capacity constraint.]

## Appendix 9

**U.S. & State of Iowa v. City of Waterloo**  
**Appendix 9: Sanitary Sewer System Master Plan**

**Sanitary Sewer Master Plan**

1. The Master Plan shall present the City's plan to address the issues identified in the targeted Sanitary Sewer System Condition and Capacity Assessments and shall provide the information required under the attached Master Plan Template as applicable to the remedial measures proposed by the City.
2. The Master Plan shall contain a Condition Assessment section and a Capacity Assessment section. Each of these sections shall include a description of the guidelines applied in performing analysis of remedial measures alternatives, including those used to select monitoring or maintenance results using the cost-benefit approach for the targeted storm conditions outlined in Appendix 8.
3. The Master Plan shall include a summary of remedial work already performed at the time of the report, as well as a schedule for the work described in the Master Plan.

## Appendix 9

### Sanitary Sewer System Master Plan Template

The following Template format is intended to expedite the City's effort to prepare the Master Plan and to expedite EPA review of that Plan. EPA recognizes that some modifications in the Template format may be necessary to match actual Plan developments. Use of this Template is at the City's option, but all information herein is required unless the City demonstrates that such information is not applicable due to the outcome of the Master Plan development.

#### I. Cover

#### II. Certification Declaration

*[Required certification, with language specified by the Consent Decree, signed by a responsible official of Waterloo]*

#### III. Table of Contents

*[List of sections, tables, figures and appendices included in this report]*

#### IV. Acronyms and Abbreviations

*[Definitions of abbreviations and acronyms included in this report]*

#### V. Condition Assessment Introduction

##### A. Purpose

This Plan was prepared and submitted pursuant to Paragraph 26 of the Consent Decree.

##### B. Regulatory Requirements

This Section summarizes Waterloo recommended Condition Remedial Measures that have been prioritized and selected in accordance with Appendix 6 to address verified structural defects in the Waterloo sanitary sewer system that cause or significantly contribute to Condition-related SSOs, Building Backups and Prohibited Bypasses. This Section describes Waterloo's plans to implement the selected Condition Remedial Measures on a balanced annual basis during the remaining term of this Decree. Waterloo has prioritized and selected these Condition Remedial Measures based on appropriate factors reflected in Paragraph 19 and in Appendix 6 of the Consent Decree and in accordance with the requirements of the Consent Decree. The implementation time-frames in this section reflect practical planning requirements such as those stated in Paragraphs 26 through 28 of the Consent Decree.

#### VI. Summary of Condition Assessment Summary Report

## Appendix 9 Sanitary Sewer System Master Plan Template

*[Brief summary of the Condition Assessment Summary Report and how it relates to this Plan].*

### VII. Remedial Measures Alternatives Analysis

#### A. Guidelines for Alternatives Analysis

The Plan for Condition Remedial Measures follows Waterloo completion of the Condition Remedial Measures Alternatives Analysis as described in Appendix 6 of the Consent Decree.

#### B. Remedial Measures Alternatives Analyses Results

*[Provide a brief description of the guidelines used for performing alternatives analysis; consistent with Condition Assessment and Remediation Process and Guidelines Appendix. Include a description of guidelines used to select monitoring or maintenance results.]*

#### Results of Completed Remedial Measures Alternatives Analyses

Result	Miles of Gravity Main Sewer <sup>1</sup>	Number of Gravity Sewer Main Pipe Segments	Number of Manholes
Replace <sup>2,3</sup>			
Rehabilitate <sup>3,4</sup>			
Repair <sup>3,4</sup>			
Monitoring			
Maintenance Analysis			
Other (Specify)			
<b>Totals:</b>			
Note 1: Full pipe length is included in mileage.			
Note 2: Includes conventional open-cut replacement, replacement by tunneling and replacement by pipe-bursting.			
Note 3: Approach for actual implementation may be different than alternatives analysis result Appendix 6 (Condition Assessment).			
Note 4: Repairs include spot repairs or remediation of a short section of the pipe segment using trenchless or open-trench remediation. Rehabilitation includes trenchless sewer remediation from manhole to manhole such as CIPP lining or slip-lining.			



**Appendix 9**  
**Sanitary Sewer System Master Plan Template**

**VIII. Remediation Completed**

**A. Remedial Measures Progress**

*[Summarize the mileage and number of manholes for which Condition Remedial Measures have been completed prior to submittal of this report.]*

	<b>Remedial Measure Technique</b>	<b>Total Mileage</b>
Sewer Mains (miles) <sup>1,2</sup>	Replace	
	Rehabilitate	
	Repair	
Manholes (number) <sup>2</sup>	Replace	
	Rehabilitate	
	Repair	
Pump Stations (number)	Replace	
	Rehabilitate	
	Repair	
Force Mains (miles) <sup>1,2</sup>	Replace	
	Rehabilitate	
	Repair	
Note 1: Full pipe length is included in mileage.		
Note 2: Repairs include spot repairs or remediation of a short section of the pipe segment using trenchless or open-trench remediation. Rehabilitation includes trenchless sewer remediation from manhole to manhole such as CIPP lining or slip-lining.		

**Appendix 9**  
**Sanitary Sewer System Master Plan Template**

**IX. Master Plan**

**A. Anticipated Condition Remediation Timeframes**

*[Summarize target remediation quantities for completion each year.]*

	Remedial Measure Technique	Calendar Years 2018-20	Calendar Years 2021-23	Calendar Years 2024-26	Calendar Years 2027-29	Calendar Years 2030-32	Total
Sewer Mains (miles) <sup>1</sup>	Replace						
	Rehabilitate						
	Repair						
Manholes (number)	Replace						
	Rehabilitate						
	Repair						
Pump Station (number)	Replace						
	Rehabilitate						
	Repair						
Force Mains (miles) <sup>1</sup>	Replace						
	Rehabilitate						
	Repair						
Note 1: Full pipe length is included in mileage							
Note 2: Waterloo may make day-to-day operational changes to Remedial Measures consistent with the Consent Decree, including Appendix 6 of the Consent Decree.							

**B. Condition Remediation Project List**

**Remediation Project List**

Project Name	Completion Date	Service Area	Project description

**Appendix 9**  
**Sanitary Sewer System Master Plan Template**

**X. Capacity Assessment Introduction**

**A. Purpose**

This section was prepared and submitted pursuant to Paragraph 24 of the Consent Decree.

**B. Regulatory Requirements**

This section summarizes Waterloo's recommended Capacity Remedial Measures that have been prioritized and selected in accordance with Appendix 8 to address Capacity Constraints in the Waterloo sanitary sewer system identified through flow metering and hydraulic modeling that cause or significantly contribute to Capacity-related SSOs. This section describes Waterloo's plans to implement the selected Capacity Remedial Measures. Waterloo has prioritized and selected these Capacity Remedial Measures based on appropriate factors to achieve the goals of the Decree.

**XI. Summary of Capacity Assessment Summary Report**

*[Brief summary of the Capacity Assessment Summary Report and how it relates to this Plan.]*

**XII. Remedial Measures Alternatives Analysis**

**C. Guidelines for Alternative Analysis**

The Plan for Capacity Remedial Measures follows Waterloo's completion of the Capacity Remedial Measures Alternatives Analysis as described in Appendix 8 of the Consent Decree.

**D. Remedial Measures Alternatives Analysis Results**

*[Provide a brief description of the guidelines used for performing alternatives analysis. Include a description of guidelines used to select continued monitoring results.]*

**Results of Remedial Measures Alternatives Analyses**

<b>Remedial Measures Alternatives Analysis Result *</b>	<b>Number of Potential Capacity Constraints</b>
Re-route a portion of upstream wastewater flows	
Reduce flows entering the sanitary sewer system	
Reduce inflow	
Reduce infiltration	
Increase conveyance capacity	
Upstream flow detention facilities	
Continued monitoring	
Other (Specify)	



## Appendix 9 Sanitary Sewer System Master Plan Template

<b>Totals:</b>	
* Note: Some Capacity Constraints may require more than one remedial measure technique. The predominant remedial measure technique will prevail for reporting purposes.	

### E. Alternatives Analysis Results

*[Include a color-coded map showing the location of each type of result. In addition, a summary table should be included, with upstream and downstream manhole number of each segment considered as part of analysis.]*

## XIII. Remediation Completed

### A. Capacity Remedial Measures Progress

*[Summarize the mileage for which Capacity Remedial Measures have been completed prior to submittal of this report.]*

#### Completed Capacity Remedial Measures

	Remedial Measure Technique	Total Mileage
Sewer Mains (miles) <sup>1</sup>	Re-route a portion of upstream wastewater flows	
	Reduce flow entering Sewer System	
	Reduce inflow	
	Reduce infiltration	
	Increase conveyance capacity	
	Upstream flow detention facilities	
	Other (specify)	
Manholes (number)	Replace	
	Rehabilitate	
	Repair	
Pump Stations (numbers)	Replace	
	Rehabilitate	
	Repair	
Force Mains (miles) <sup>1</sup>	Replace	
	Rehabilitate	
	Repair	
Footing Drain	Disconnections	
Note 1: Full pipe length is included in mileage.		
Note 2: Some Capacity Constraints may require more than one remedial measure technique. The predominant remedial measure technique will prevail for reporting purposes.		

### B. Table of Capacity Remedial Measures Completed

*[Include a Table summarizing completed remedial measures by remediation method and asset type (small diameter pipe, large diameter pipe, and manholes) that identifies and distinguishes between replaced and repaired manholes.]*

**Appendix 9**  
**Sanitary Sewer System Master Plan Template**

**XIV. Master Plan**

**A. Anticipated Capacity Remediation Timeframes**

*[Summarize target remediation quantities for completion each year. Include a list of Lift Stations that require capacity upgrades.]*

**Anticipated Remediation Timeframes**

	<b>Remedial Measure Technique</b>	<b>Calendar Years 2018-20</b>	<b>Calendar Years 2021-23</b>	<b>Calendar Years 2024-26</b>	<b>Calendar Years 2027-29</b>	<b>Calendar Years 2030-32</b>	<b>Total</b>
Sewer Mains (Number of constraints addressed)	Re-route a portion of upstream						
	Reduce flow entering						
	Reduce inflow						
	Reduce infiltration						
	Increase conveyance						
	Upstream flow						
	Other (specify)						
Manholes (number)	Replace						
	Rehabilitate						
	Repair						
Pump Stations (number)							
Force Mains (Number of constraints)							
Other (e.g., footing drain remediation)							
Note 1: Waterloo may make changes to Remedial Measures consistent with the Consent Decree.							
Note 2: Some Capacity Constraints may require more than one remedial measure technique. The predominant remedial measure technique will prevail for reporting purposes.							

**B. Capacity Remediation Project List**

**Capacity Remediation Project List**

<b>Project Name (including MH numbers, where applicable)</b>	<b>Target Completion Date</b>	<b>Service Area</b>	<b>Project Description</b>